Visions of Mackay

Great Barrier Reef

Editor
Geoff Danaher

Visions of Mackay

Conference Papers

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Editor

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Preface

The regional areas of Australia have traditionally played a significant role in contributing to the nation's economic wealth and cultural life. Yet, in a nation in which most people live in metropolitan areas, it can sometimes be easy to overlook how issues affecting Australia as a whole impact on its regional areas.

The conference from which this volume emerged sought to analyse, within a regional context, a range of such issues. The city of Mackay is a centre which typifies the spirit of regional Australia in its imaginative, energetic and confident response to global challenges. It was extremely appropriate therefore for the Mackay Campus of Central Queensland University to host this conference.

The Mackay campus, set among sugar cane fields stretching from the city to the base of the Eungella Range, provides a tranquil environment in which to confront the challenges of today and tomorrow and the conference certainly did just that.

In addition to the papers presented in this volume, conference participants had the opportunity to hear other speakers whose contributions helped to fill out the "Visions of Mackay". Senator Margaret Reynolds spoke of the need for local people to be actively engaged in shaping the changes affecting their community. Ron Mullins, Phillip Gasteen and Greg Mann, all key contributors to Mackay's economic health, addressed the global influences impacting upon the sugar and coal industries and the Port of Mackay. Professor David Myers described the role that CQU Press has played and is playing in providing opportunities for regional writers to share their visions with a wider audience. Papers were also presented on such issues as nursing in regional areas, health provision for members of the Australian South Sea Islander Community in Mackay, the contribution of art to Mackay's cultural life, and the role of the media in reflecting, shaping and promoting the values of regional communities.

It was a highly successful conference ranging across economic, social and cultural issues. I commend this volume to you for the information it provides and the challenges it poses. It demonstrates how regional Australian centres such as Mackay are being proactive in shaping the future. Well done Mackay!

Professor Glenice Hancock
Deputy Vice-Chancellor
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May 1998

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Foreword

On July 10, 1997, Central Queensland University Mackay hosted the *Regional Australia: Visions of Mackay* conference. This was the first academic conference to be held at the campus, and it attracted approximately 80 delegates to present papers and take part in the discussion that ensued.

The objective of the conference was to provide the opportunity for academics, business people, government officials and other interested parties to come together to discuss their visions for the development of a regional Australian centre such as Mackay.

While Mackay shares many features with other regional Australian cities, there are particular local factors shaping its development. Mackay is a city of 75, 000 situated on the Queensland coast mid-way between Townsville and Rockhampton. It is an economically diverse and prosperous regional centre, drawing its wealth from coal from the nearby Bowen Basin, sugar and tourism. Mackay has recently developed intellectual and cultural assets in the form of a university campus and Conservatorium of Music. The city has considerable ethnic diversity with significant groups of Aboriginal and Torres Strait Islanders, Maltese, South Sea Islanders and Philippine people, among others.

The papers in this volume emerge from the *Regional Australia: Visions of Mackay* conference. They convey a sense of the diversity of interests featured at the conference, and the confidence and conviction with which the speakers outlined their visions.

Acknowledgements

Introduction

In the first chapter of this volume, Rod Jewell, Ken King and Allan Bell outline a vision for a globally competitive Mackay region in the 21st century. Despite its present economic good fortune, Mackay cannot afford to be complacent about its future, given the uncertainty of its main industry, coal, as the world seeks environmentally friendly fuel sources. The authors recommend that a community-building leadership program based on a recent experience in Nebraska USA be implemented to facilitate the incorporation of new ideas and technology into the region. That is, the region needs to tap into information resources both within and beyond its boundary in order to respond best to the fluid global economic environment that is rapidly emerging.

Trevor Arnold considers the role the sports industry can play in the development of a regional community. While sport is often considered just as a pastime with no real impact upon an area's economic well-being, Arnold shows how sports events can play a significant role in generating ongoing revenue for a community. This has particular importance for a region like Mackay with a proud history of producing outstanding sports men and women.

Fae Martin shifts the issue of economic development to the sugar industry. Recognising that cane transport makes up over a third of the cost of manufacturing sugar, Martin discusses how an artificial intelligence device called 'constraint logic planning' can be used to help optimise the scheduling of a cane railway network. This device demonstrates the efficacy of using very modern technology to sustain a rather traditional industry like sugar.

Geoff Danaher considers the case of value adding for the sugar industry through the development of a sugar museum in Mackay. Danaher adopts a cultural studies approach to link the concept of sugar as a fluid space of stories to the fluid and uncertain economic environment within which the product now operates. This chapter argues that, only by engaging with this fluid and uncertain environment, both in its cultural representations and in its economic approach, can Mackay develop as an enriched regional centre.

While a regional sugar museum in Mackay would need to take account of the experiences of different cultures, such as the South Sea Islander community, this is also true of regional education policies. Robyn Cox and Grant Webb consider the issue of literacy teaching for South Sea Islander school students, arguing that schools need to broaden their concept of literacy to recognise the presence of multiple literacies that students bring with them to the educational setting. Cox and Webb offer a vision of a regional education network which is open and consultative of the communities from which it draws its students.

Clive Booth traces the ten year history of the Central Queensland University campus in Mackay. As Foundation Head of Campus, he is well placed to detail the various tensions and pressures, both within the Mackay region and beyond, that have shaped the campus's history. Booth emphasises that beyond its role as a tertiary education service for local people, CQU Mackay has played a significant role in the cultural life of the region.

Joe Hallein, Judith Phillips and Shannon Pearce focus on the educational experience of students at university, asking whether the Tertiary Entrance Results (TERs) students receive on completing school are a good indication of their chances of success. This is a particularly significant issue at a time when the West Review predicts that tertiary education will become an experience available to most Australians, rather than being confined to a privileged few. The authors find that TERs tend to be too narrow an instrument for predicting students' success at university.

If Clive Booth considers the longer term history of Mackay's university campus, Tony Schirato looks at more recent developments, particularly focusing on CQU's 'Vision '97' proposal, designed to enable students in all CQU campuses to complete their degrees locally. As with Booth's chapter, the focus here is on the tensions and pressures that have accompanied this development. What is evident is the necessity to provide both a structural apparatus and an appropriate culture to facilitate such a move.

Judith Langridge examines the impact of new electronic media on existing media, within the context of a regional setting. On the one hand developments in media technology have been vital for the growth of regional communities in providing an increasing sense of connectedness with the outside world; on the other hand Langridge fears these developments may lead to a greater homogenisation or standardisation of cultural expression. It is noticeable how changes in media technologies have put in place a culture of reflection on those changes and their effects in shaping who we are. Langridge's chapter focuses on the kind of questions that energise that culture of reflection.

Denis Cryle discusses the applicability of the *Futures for Central Queensland* project, which involved speakers from industry, government and the academy outlining their ideas about the development of the Central Queensland region, to the theme of *Visions of Mackay*. The *Futures* project points to the importance of establishing a culture of regional interests, which although problematic in certain respects, can help facilitate a more co-operative and co-ordinated approach to planning for, on the one hand, the CQ region's development as a whole, and, on the other hand, the development of various centres within the region. While other chapters in this volume focus on the role of globalisation in shaping sites like Mackay, Cryle shows that regionalisation also has a significant influence.

Steven Pace shifts the focus from the regional to the global in his discussion of Internet technology's impact on the citizens of Mackay. Pace suggests that, because of limitations in bandwidth, the Internet thus far has produced an

'Information goat-track' rather than the much vaunted 'Information Superhighway'. With this situation about to change, Pace argues the information revolution will impact upon all aspects of the life of Mackay citizens, from their work practices to their entertainment and shopping activities.

Mary McDougall also focuses upon new technology, particularly in its role in shaping educational opportunities for distance education students. She discusses the pressures and challenges of this mode of study, and how the growth of tertiary education in Mackay, accompanied and in part facilitated by developments in technology, have made tertiary education a much more viable alternative for many regional citizens.

Two chapters by Lorna Moxham and Shane Pegg address health issues in a regional community context. The first looks at the factors affecting ethnic minorities' perception of health and illness, suggesting ways in which health professionals might respond in a culturally sensitive manner. The second takes on board the aging of the Australian community as it impacts on elderly people in a rural setting, pointing out that such people tend to be more at risk of ill health than their urban counterparts. This chapter points to the role of support services which will assist elderly regional citizens to maintain an active lifestyle.

Bonita Shore looks at rehabilitation in a regional setting. The author has used her experience as a rehabilitation counsellor within Workcover Queensland to suggest the complex way in which rehabilitation is defined, and how the concept of rehabilitation has changed throughout its history in Australia. Shore discusses the great array of services now available in regional communities such as Mackay to facilitate the rehabilitation process.

The final two chapters in this volume feature contributions from the Central Queensland Conservatorium of Music in Mackay. The first, by Helen Lancaster and Ian Bofinger, is a report of 'Black Rain', a multi-media performance piece composed by Bofinger which had its world premiere at the *Visions of Mackay* conference. The authors discuss the various processes through which the performance is put together, involving review, reflection, reconsideration and culminating in the actual outcome.

The final chapter, by Helen Lancaster, provides a history of the conservatorium in Mackay. In some ways, the chapter might be read as a corollary of Clive Booth's history of the university campus in Mackay. From her position as Director of the Conservatorium, Lancaster details the struggles over funding and the challenge of establishing a presence in the Mackay community. From the wealth of different activities in which it now engages, it is clear that the Conservatorium, like the university, has now become an integral part of its regional community.

Taking the chapters together, certain themes about life in a regional community like Mackay begin to emerge. One very clear signal is that it is no longer tenable to describe Mackay as a rural backwater, defined by its distance from, and suspicion of, metropolitan centres. On the contrary, most authors point to, in one way or another, how Mackay needs to respond, creatively and constructively, to the institutional shifts and globalising forces that will so clearly shape its destiny.

A second, and related, theme is the complex and heterogeneous nature of Mackay's community. It often seems conventional to understand regional communities in monocultural or homogeneous terms, tied to a stable identity with its roots firmly embedded in the past. It is evident from this volume the rich diversity that is constitutive of Mackay's community, expressed from the variation in ethnic identity through to the variety of educational and cultural activities and diversions available to its citizens.

Perhaps a third theme is, that for all its present relative prosperity, Mackay cannot afford to be complacent about its future. Its economic base in coal and sugar is subject to fluctuations in the global market to which these products are tied, and coal particularly is likely to yield diminishing returns as the world searches for more environmentally sustainable energy sources. Many authors point to the need to move to a more service-centred regional economy, value adding through informational, cultural and educational services.

And a fourth, and related theme, is that Mackay is ideally placed to respond to this challenge, based on the skill, energy and commitment of its human capital. For it is very apparent from this volume how large a role the people of Mackay have played in shaping its cultural, educational and economic institutions.

What emerges, then, from this volume is not a single neat vision of Mackay. And that is something for which we should be grateful. To employ a musical metaphor in keeping with a community in which the Conservatorium of Music looms large, from the polyphony of voices that resonate within this book emerges a complex symphony, perhaps seeming somewhat cacophonous and rancorous at times, but each part contributing to the mosaic of sound that might enrich the town. And even as Mackay seeks to absorb and respond to the strident noises from outside, it is the inflections and accents from the voices within which will continue to resound within this community's hybrid, exciting and ever-changing identity.

Geoffrey Danaher
Editor

A Globally Competitive Mackay Region in the 21st Century – Let's Do It.

Rod Jewell, K. King, Allan Bell

Abstract

This paper examines the history of the development of the Mackay Region and suggests that its history might in fact be limiting, rather than supporting, its future commercial competitiveness. A proposal is made that a community-building leadership program based on recent experience in Nebraska USA, combined with a focused region-wide approach to the use of new ideas and technology can provide the edge that the Mackay Region will need to survive and thrive in the 21st Century. An evolutionary learning approach is proposed, starting with the provision of easy access to commercial information on the Mackay Region. This should be followed by an iterative education program, designed to assist small to medium enterprises to incorporate new ideas and technology, and progress to a global marketing campaign selling the Mackay Region to Queensland, Australia and the world. The program will emphasise the communication, leadership and support elements required to improve economic development in the region. Close monitoring of the program will be necessary to ensure maximum benefits can be achieved.

Aim

The aim of this paper is to provoke thought and discussion on the economic future of the Mackay Region. It is a first attempt to put into context the current economic situation of this Region, outline vulnerabilities, and propose ways in which the Region can face the future in a stronger position.

Mackay Region

For the purposes of this paper, the Mackay Region has been taken as the area defined by the Australian Bureau of Statistics as the Mackay Statistical Division. As shown in Figure 1 and Table 1, this Region comprises seven local government areas totalling 69,011 square kilometres and 121,074 persons as at 30 June 1996 [Regional Profile 1997].
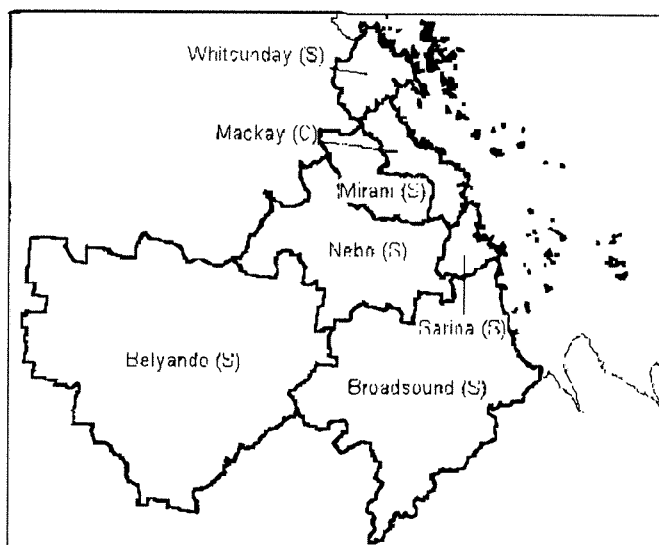
Figure 1

Table 1:

Local government area	Area (sq km)	Estimated resident population
Belyando (S)	30,361	10,714
Broadsound (S)	18,474	8,204
Mackay (C)	2,820	72,079
Mirani (S)	3,280	4,955
Nebo (S)	10,024	2,402
Sarina (S)	1,435	9,322
Whitsunday (S)	2,617	13,398
Mackay SD	69,011	121, 074

Table 1. *Area and estimated resident population by local government area, Mackay Statistical Division, as at June 1996 (p) [from Regional Profile 1997]*

A Brief Economic History

The Mackay Region was originally populated by two main tribes of Aborigines: Baraba and Barna, with smaller tribes such as Wire, Juitera and Birie being part of these main tribes [Phillips 1988 p. 11].

The first European involvement commenced, in 1770, with the naming by Ltn James Cook of Cape Palmerston to the South of Sarina, Repulse Bay to the North, Point Slade, the Whitsunday Passage, and several Great Barrier Reef islands. He and his crew were very probably the first Europeans to sight the eastern seaboard of what has developed into the Mackay Region. In March 1843, Captain Blackwood and his crew in HMS Fly "were sent to this area to chart and more closely explore these coastal lands" [Phillips 1988 p. 8]. They landed and explored Cape Palmerston, Llewellyn Bay, Armstrong Beach, Sarina Inlet and Plane Creek. Overland explorers such as Ludwig Leichhardt (1844), Major Sir Thomas Mitchell (1845) and A.C. Gregory were, at the same time, opening up the land to the west of the yet-to-be-named Mackay region for cattle and sheep grazing.

After overland discovery by an exploring party led by John Mackay in May 1860, Mackay was declared a port of entry in November 1862 and a port of clearance in January 1863 [Manning 1983 p. 7]. Initial attempts at commercial enterprise were by squatters with cattle and sheep, with the first commercial cane in the Mackay district being planted by John Spiller in June 1865 from plants originally brought from Java. The first crushing, of 230 tons of sugar, finished at the newly constructed Alexandra mill on 18 November 1868. By the mid-1880s, thirty mills were crushing cane and Mackay had become Australia's foremost sugar district, a position it has retained ever since [*Reader's Digest* 1993 p. 442]. In 1996 the Mackay Region was the largest sugar region in Australia producing 29% of total raw sugar in Queensland worth $505 million [*DTSBI Sugar Industry Profile* June 1997].

The second major industry to develop was tourism. Although a basic tourist industry existed prior to World War II, it wasn't until 1946 that a significant industry based on exploiting the wonders of the Great Barrier Reef began to develop [McLean 1986]. In 1995-96, 3.6% of total tourist expenditure in Queensland, worth $206 million, was spent by visitors to the Mackay Region.

It is the mining industry, however, which has driven industrialisation and growth of Mackay since the 1970s. Although the existence in the Mackay hinterland of high grade anthracite has been known since the 1880s, it was "the lack of market and capital to build the railway ..." which prevented earlier development [Kerr 1980 p. 217]. In 1994-95, 47.1% of the black coal mined in Queensland, worth $1678 million, was produced in the Mackay Region [*Regional Profile* 1997].

Current Regional Industry Profile

An industry profile for the Mackay Region is given in Table 2. Data on Tourism are included as part of the 'Recreation, personal and other services'. The profile shows that the Mackay regional economy is predominantly resource based with coal, sugar, tourism, beef, port export and service industries providing the main support [*Regional Profile* 1997].

Table 2:

Industry (ASIC)	Mackay SD (%)	Queensland (%)
Agriculture, forestry and fishing	7.0	5.3
Mining	35.5	6.1
Manufacturing	7.4	12.0
Electricity, gas and water	2.1	3.7
Construction	6.2	8.6
Wholesale and retail trade	10.2	15.2
Transport, storage and communication	7.8	9.3
Finance, property and business services	3.7	7.8
Public administration, defence and community services	7.6	15.0
Recreation, personal and other services	4.7	5.2
Ownership of dwellings	6.4	9.4
General government	1.4	2.3
All Industries	100.00	100.00

Table 2. Industry contribution to gross regional and state product, Mackay statistical division, 1990-91 [from Regional Profile 1997]

The Mackay Region is described as "a dynamic area with a regional economy worth an estimated $2.6 billion per annum in 1990-91....This represents a per capita contribution to the Queensland economy of $23,500 which is substantially above the State average of $18,400." [*DTSBI Local Economic Profile*: Mackay City (June 1997)]. On the face of it, the Mackay Region appears to be an area which is economically strong and will continue to prosper. According to the Department of Tourism, Small Business and Industry: "Mackay's economic outlook is bright with major tourism, primary and secondary developments being planned." [*DTSBI 'Local Economic Profile*: Mackay City (June 1997)].

Vulnerabilities of the Mackay Region

In reality, however, the Mackay Region has a number of vulnerabilities which need to be addressed if it is to survive let alone thrive into the 21st century.

External decision making: The vision and most of the physical effort that has brought the Mackay Region to its present level of prosperity, is the result of local private enterprise. However, from its very beginnings, commercial development has largely been determined by government and commercial decisions in Brisbane and elsewhere (for example, the early Victorian import duty and European and USA bounties on sugar production, and more recently the renegotiation of long term sugar and coal contracts by the Japanese). It is only in the sugar industry that local interests have been able to take a more active role in setting their own destiny, by co-operatives taking over milling (started at Farleigh in 1926) and more recently by Mackay Sugar expanding into refining and shipping.

Imported resources: Commercial development has always been hindered by the need to raise resources from outside sources. Most of the materials, equipment, machinery, expertise, and capital used to develop primary and resources industries and their infrastructure have been imported from elsewhere.

Competition from other Queensland regions for government funding: From the very beginning of European settlement, the Mackay Region has also had to contend with competition for government focus and funds from other Queensland regions. The Mackay Region has very little state or federal government infrastructure compared with both Townsville to the north (with Defence, regional centres and university) and Rockhampton to the south (regional centres and university). Whenever coordination above local government level is considered for Mackay and surrounding areas, it is invariably centred in Townsville or Rockhampton. The Mackay Region has tended to be a 'cash cow' which is milked for its natural resources but is not properly nourished.

Probable future downturn in demand for coal: The coal industry, as well as facing global competition from other coal producers, is facing a future where the world is trying to drastically reduce its dependence on fossil fuels. The current Australian Government's 'success' in reducing the speed of implementation of fossil fuel emission controls can only provide a delay in this inevitable process. With reduced world coal usage, demand for Central Queensland coal must surely reduce in the long if not medium term.

Lack of information/knowledge industry: Most important, though, is the economic reality that over the last century, the economic value of commodities such as coal and crops has declined in comparison with secondary and tertiary products. With more and more machinery being used to supplant physical labour the emphasis in business has shifted to the use of information and knowledge to gain competitive advantage through adding value to goods and services and through better and smarter use of resources. "Today, more than 60 percent of the U.S. labor force is involved in the production, distribution, and usage of information. Not surprisingly, an information services industry (which includes the computer, software, networks, and information-consulting industries) has developed to support the growing information needs of businesses." [*WBB* 1994 p. 40]. The Mackay Region exports virtually no goods or services of a knowledge or information based nature. With its traditional base of primary and resource industries, the Mackay Region faces the prospect of receiving less and less return for the goods it produces while it pays more and more for the imported information, knowledge and smart equipment to enable it to produce more for less.

From the above discussion, it can be seen that there is no room for complacency. The current level of prosperity will not last if development continues as in the past.

Regional Economic Development
Community Building, Community Connections

Because of the tremendous natural assets available in the Mackay Region to be exploited, there has previously been no perceived need to fully develop, its most valuable asset, people. Education in Mackay has been provided at the primary, secondary and technical level but in terms of professional preparedness at the tertiary level, this asset has been left largely undeveloped. The majority of all professional or knowledge workers have to be 'imported' into the Mackay Region. Until recently, for Mackay children to receive a mainstream tertiary education, they have had to leave the Region, generally with a subsequent substantial cost to their family both financially and personally. The region has lacked a formal mechanism to share hard won knowledge and information except in a few specific areas. It is in these areas that much more can and needs

now to be done. We propose that a strong active community and regional focus needs to be taken in developing the people of the Mackay Region in terms of further education and showing them how to discover opportunities for investment here. This must be done to ensure the Region remains on a firm footing for the next thirty years.

Introduction

"Regions need to target the businesses most likely to generate investment growth, find ways to stimulate demand for the region's products and services in a global economy, and create an environment that will encourage investment growth."

This quotation is from the final report of the study 'Lead Local Compete Global' undertaken by McKinsey & Company for the Office of Regional Development, in the Australian Commonwealth Department of Housing and Regional Development and published in July 1994.

The McKinsey & Company report, through case study material and positive examples, identified regions in Australia and overseas where aggressive action has created and stimulated business development and contributed to regional success - Broken Hill; Far North Queensland; North Adelaide; Emerald, South Carolina USA; and Glasgow in the UK. The Kelty Report to the Federal Government by the Taskforce on Regional Development provides similar comment, and illustrates examples of traditional economic activity together with observations on regional strengths. An Audit of The Mackay Regional Economy [JCU 1995] identified the region as a distinct economy whose activity relies heavily on trade in the areas of coal, sugar, cattle, grain and seeds, and services (including tourism). The audit summarises future directions for the region stating that the majority of community leaders recognised that a key to future regional development was in the expansion of these existing industries.

Committing to the global economy however presents challenges, and significant dangers. It can be argued that the Mackay Region would be better off without the harsh exposure to complex global issues and exogenous influences, and that the focus of the region should be on those problems and issues within the region that it can influence. We suggest however, that those regions that dare to be different and those communities that embrace a new strategic vision are more likely to be well positioned in the 21st century.

Successful regions are integrated communities which have a sound knowledge of all capabilities within that region and can quickly and easily exploit those capabilities. Technology can provide ties within communities and ties to markets around the world. On-line trade facilitation services such as

GEMMNET and TRADEBLAZER can link producers and manufacturers in Mackay to global markets and purchasers. By looking to, and linking with, markets outside their region, both nationally and internationally, local businesses can develop significant opportunities to foster local demand and provide positive economic outcomes for the Mackay region. Information and education are key tools in achieving this. Two examples of communities which have embraced this concept are given below.

Illawarra Region of NSW

In the Illawarra region of New South Wales, key elements of its 1990 Regional Development Strategy were the priority implementation of skills enhancement, infrastructure and new enterprise development, and regional marketing/ promotion. The authors of the strategy document indicated that revitalisation of the region required the identification and development of new core industries such as telecommunications and technology, tourism and recreation, marine and export industries.

Key institutional support from the University, the Port and a Regional Planning Body were identified as essential. A strong staff and research support structure and the adoption of a five year rolling corporate plan for the region were recommended. Subsequent regional reviews have shown significant growth and export development in areas such as waste management, transport, manufacturing, education, research and development, and communications. The Illawarra region, amongst others in Australia, provides a good example of a strong innovative community adopting a new vision to identify and develop new regional opportunities.

Nebraska USA

Since 1992, the Department of Economic Development in Nebraska, USA has supported the development and implementation of a program titled 'Community Builders'. A key to the program is the utilisation of technology to provide citizens with the skills and information needed to support economic development in the context of job creation, business development and regional investment. Community Builders encourages individuals in a region to free themselves from any pessimistic, fatalistic view of the past (continuing to do more of the same – in many instances a severe constraint to growth) and develop dreams and visions of a prosperous (and generally different) future.

Committing to the Global Community

International and broad macro-economic changes can open exciting opportunities for local regions as well as posing significant threats. Regional isolation is no longer a problem as long as appropriate support infrastructure exists to provide adequate information and delivery mechanisms. Delivering goods and services to the right market at the right price in the correct timeframe is critical. Comprehensive and immediate systems are necessary to identify the

best development options within a strategic regional framework. A commitment to the global community also requires a commitment to an effective regional strategy – a commitment to regional leadership and strong professional peak body representation that can authoritatively participate in crucial economic development issues, support local businesses and access adequate investment.

Whilst trade in the Mackay region has traditionally linked to the global economy through key exporters and major multinational companies, a real export network opportunity exists for small to medium enterprises. Manufactures, research and development, technological implementation and local skills can support both existing and emerging industries in the Region in the 21st century.

Successful communities are prepared communities

A regional strategy or plan is required. In the Mackay Region, the resource and commodity industries are the key export earners supported by appropriate regional infrastructure such as transport, communications, port facilities and social services. As discussed above, the development of complementary value-adding export opportunities and the identification of appropriate new industries in the region is essential for sustained economic and industry development. The strategy development process should be targeted at regional industry stakeholders in order to develop sustainable industry action plans, define future infrastructure requirements and provide a key economic input into the recently announced Regional Planning Advisory Committee. Such a strategy would provide a series of short (2 year), medium (2-5 years) and long (5 years plus) industry specific and regionally coordinated industry action plans.

The strategy should identify actions which will:

- impact positively on regional employment opportunities;
- help develop the international competitiveness and export performance of the region;
- focus on industries that will provide long term economic stability in the region;
- enhance conditions for increasing investment in the region;
- maximise the utilisation of technology and focus on research and development; and
- further develop commitment and cooperation in regional economic development by key regional stakeholders.

It is proposed that a community-building leadership program based on recent experience in Nebraska USA, combined with a focused region-wide approach to the use of new ideas and technology can provide the edge that the Mackay Region will need to survive and thrive in the 21st Century.

Nebraska Development Network

The State of Nebraska in the USA has become internationally recognised as a leader in economic growth because of the strength of its local communities and the will to unite people with resources, empowering communities to successfully compete in the global environment.

The establishment and operation of the Nebraska Development Network is supported by the Nebraska State government through the Department of Economic Development as part of a long term commitment to improvements in regional economic development. The Network works to connect business and community leaders throughout the State with people within organisations, agencies and the private sector who are willing to be partners in community and economic growth. The Network has more than 475 organisational members representing 8,000 individuals. Network members include businesses, educational institutions, elected representatives, government agencies, chambers of commerce, state-wide associations, commissions, indigenous representatives and utilities.

Network Mission

"The mission of the Corporation is to assist communities through education to succeed in a global economy. The purpose of the Network shall be to create and support throughout Nebraska, community and regional development capacity that:

- Recognizes shared local responsibility for shaping the community's and region's economic future;
- Generates and focuses public and private resources on effective actions that help communities and business to grow and prosper; and
- Encourages public-private partnerships thereby leveraging limited public resources through private investment"
  [*Nebraska Development Network Inc.* 1997]

Network Objectives

Objectives of the Nebraska Development Network Inc are:

- "To support communities to initiate and plan their own economic futures by providing them with comprehensive information about the principles of community and economic development.
- To provide communities with more accessible, coherent, efficient, and effective services through the cooperative voluntary efforts of its members.

- To increase the resources directed towards economic development by building support within communities, voluntarism, and cooperation at volunteer level.
- To expand the leadership base in communities and to train leaders in the concepts of "entrepreneurial communities" – strategic planning, community development and effective economic development.
- To strive for sustainability with this program by achieving consensus among Network members, state government leaders and communities regarding the economic concepts fundamental to the visions that is the framework of the Network as stated in the purpose statement.
- To support the work of the Region Network Groups."
[*Nebraska Development Network Inc.* 1997]

Network Outcomes

Network outcomes have been substantial. A rural state in long term substantial decline has been re-positioned industrially, new industries have been established, a technology focus has been adopted, and a range of employment and investment opportunities created. After only five years of establishment the Development Network has turned around thirty years of decline. There is a net surplus of employment opportunities in the state and the population is increasing with significant interstate and international migration and investment.

Community Builders

The Community Builders program of the Nebraska Development Network is designed to help prepare communities to succeed in a global economy and increase local and regional capacities for growth by encouraging individual responsibility for building a community's capacity. The key is that it is citizen- and community-driven. The program focuses on job creation, business development and wealth generation.

The goals of the Community Builders program are to:

- ensure that people have the skills and information they need to support economic development activities in their communities, and
- ensure that participation in these vital local activities is as broad as possible.

People who participate in Community Builders learn how to:

- assess community needs and identify community capacities – people often do not know their own communities;

- connect with appropriate development programs – with up-to-date information on market opportunities, research & development assistance, business counselling & mentoring, and networking opportunities;
- involve citizens in economic and community development programs; and
- cooperate with neighbouring communities and to think regionally [*Nebraska Development Network Inc.* 1997]

Physical and electronic networks are considered essential to:

- foster small business development – with cheap local and global communications;
- attract people and employment – by active promotion of business, lifestyle and investment opportunities;
- secure investment in local projects – with the maintenance of an inventory of business opportunities to match interested investors with commercial projects, joint venture partnerships, development of technology opportunities;
- retain & develop existing enterprises – using demographic data, investment & educational seminars; and
- promote the region & encourage new enterprise – commercial land development, special projects & local initiatives

Lessons for the Mackay Region

From an examination of the history of Mackay, it can be seen that underneath the veneer of current prosperity there are vulnerabilities. We suggest that instead of being complacent, action needs to start now to pre-empt any future industrial decline. An evolutionary Regional plan should be developed and implemented which is based on the 'Community Builders' program of the Nebraska Development Network Inc. The plan should incorporate:

- building of a Regional commercial knowledge base (a super 'Yellow Pages') which is easily accessible to everyone in the Region – at present, specific knowledge is retained in the heads of a few people (This needs to be made available to all in the Region if the capacity of its people is to be utilised.)
- development of an evolutionary leadership program to assist a number of people each year to:
    - assess the needs of the Mackay Region (especially in small business) and identify and document its capacities – to add to the commercial knowledge base;
    - access appropriate development programs – with up-to-date information on market opportunities, research & development

assistance, business counselling & mentoring, and networking opportunities;

- involve Regional citizens in economic and community development programs;
- cooperate with neighbouring communities within the Region;
- propose ways to market the Region locally (to slow imports), nationally and globally; and
- help in building the leadership program.

- provision of resources to the Regional Planning Advisory Committee to enable it to act on proposals arising from the leadership program;
- development of educational programs in the Mackay Region which complement the needs unearthed by the leadership program; and
- a monitoring program to chart the plan's progress and provide valuable feedback on modifications which are necessary (The plan should be a 'living' document which evolves over time).

Conclusions

A proposal is made that a community-building leadership program based on recent experience in Nebraska USA, combined with a focused region-wide approach to the use of new ideas and technology can provide the edge that the Mackay Region will need to survive and thrive in the 21st Century. An evolutionary learning approach is proposed, starting with the provision of easy access to commercial information on the Mackay Region. This should be followed by an iterative education program, designed to assist small to medium enterprises to incorporate new ideas and technology, and progressing to a global marketing campaign selling the Mackay Region to Queensland, Australia and the world. The program will emphasise the communication, leadership and support elements required to improve economic development in the region. Close monitoring of the program will be necessary to ensure maximum benefits can be achieved.

For the Mackay Region to maximise opportunities for economic development into the 21st century four elements are considered essential – committed leadership, strategic direction, education and communication. Technology will play a key role to provide connectivity and in the development of new industries for the region. Infrastructure and enterprise development require substantial investment. Promoting the region as the 'can do capital of Australia' is necessary to secure future funds. The enabling technology exists, the regional will is there and planning has commenced – let's do it now!

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The Sports Industry and its Potential Economic and Employment Contribution to a Regional Community

Trevor Arnold

Many individuals view sport as merely a game, but to others it is a great deal more. It has had a continuing role to play in the health and happiness of many nations. More recently it has been viewed in a selection of societies as a multi-faceted industry that supports the gross national product by generating millions of dollars, creating employment opportunities, promoting tourist income as well as having the potential to reduce the nation's health expenditure. Sport is very much a part of the national identity of many societies, particularly those of British cultural heritage. It has become a facet of contemporary lifestyle that involves participants, vicarious observers, multi-national media outlets, international business conglomerates and all levels of government in most of the developed, and developing, world.

As Australia approaches the 2000 Olympics many of us will become much more familiar with our sporting heroes and their personal histories. Media reports will create national heroes, keep us informed of the social and financial implications of staging the Olympics and members of parliament will use the event for their political advantage. It will be the individuals and the business conglomerates that read between the lines and closely analyse the information who will be in a position to gain most from this event and sport in the future.

I will refer to but one example: *The Weekend Australian*, June 21-22, 1997. In this specific edition was an article entitled "High Hopes: Twenty to Watch". The article identified twenty specific athletes for us to closely monitor as potential medal winners. But a close examination of these twenty individuals revealed that three of them were born in Mackay. Presented more dramatically, a city of 70,466 people (Mackay City Council, 1996), a city of less than 0.5% of the Australian population has produced 20% of the athletes identified in this article as potential gold medal achievers.

Who has done anything to economically gain from this fact: a fact that has an incredible potential to benefit a marketing agent and the City of Mackay by millions of dollars? What has been done; what will be done; and, how will it

be done? Will the City Council use this to their economic advantage; Will a local marketing agency gain from this fact; or will it become a missed economic opportunity for the City?

An appreciation of the economic contribution and potential of sport is a recent phenomenon. This historical lack of understanding is based upon the reasoning that governments of most nations within the developed world have no constitutional authority for providing assistance to sport. However, all governments, irrespective of their political attitude or persuasion, have had, and will continue to have, objectives that relate to both the efficient management of the economy and the quality of life of the population. This has been reflected in a number of ways including the enthusiasm displayed by governments at all levels to become involved in sports planning and development.

The economic benefits of sport have until recently not only been unrecognised, but they have also been unappreciated and in most instances not identified in data produced and analysed by economists or considered in economic projections or forecasts. Over the past decade sport has become recognised as a massive contributor to the economy of many nations. In today's society we have sporting megastars who earn more money per annum than the Gross National Product of many small nations.

In Australia, the state government of Victoria, and the City of Melbourne in particular, have been very responsive to the potential economic benefits of staging special events, particularly sporting events. In the past three years they have gained the rights to stage the Australian Formula One Grand Prix, the Australian motor cycle Grand Prix event, a Three Tenors concert, one of rugby union's Bledisloe Cup matches, the 1999 World Sailing Championships and the 1998 President's Cup golf challenge between the USA and the Rest of the World. The City of Melbourne has an objective of staging one major international event every month of the year (Yallop, 1997).

Despite the potential economic contribution of sport many local government authorities still perceive sport as a welfare component of society that warrants (at times begrudgingly) government handouts for capital development. This handout is often only available with an accompanying expectation that sport administrators recoup the on-going operating costs from users: the user-pays principle. Whilst there is merit in this attitude, it is an extremely limited perception of the overall economic value of sport. Funding sport can become an investment that accrues dollars, generates income and creates employment. Local government authorities must move beyond their welfare attitude towards sport and appreciate the income-generating benefits that sport has to offer.

It is very easy for smaller local government authorities to claim that they do not have the infrastructure or the size to gain economic benefits from staging

sporting events. This was not the case with the Australian motor cycle Grand Prix.

This event is staged on Phillip Island, a community of less than 5,000 people located just over 120 kilometres, or nearly two hours of driving, from the City of Melbourne. Melbourne's international airport is a further hour beyond the city centre.

Population size or distance from a capital city are therefore limiting but definitely not prohibitive issues. What is important is to base the selection of sports and sporting events on justifiable factors.

This paper will analyse the role and status of sport in contemporary society and portray the potential economic and employment contribution of sport to national and regional economies. Research evidence will be presented on how local government authorities can identify infrastructure priorities in order to convert sport from being identified as a welfare dollar recipient into becoming a positive, identifiable and measurable contributor to the economy of a local government authority, a region and a nation.

The evidence will draw upon the Australian situation. The implications have a far broader application and can be related to most developed and developing economies, especially those economies that are operative within societies that have been influenced by British sporting heritage.

Review of Related Literature

The measurement of sport in economic terms is not a new phenomenon (e.g.: Vickerman, 1975; Gratton and Taylor, 1985), however, the idea of sport being a contributor to the economy rather than a welfare drain upon the budget is relatively recent. The first Australian attempt to appreciate sport and physical activity as a contributor to the national economy was the work of Roberts et al. (1982) for the Recreation Ministers' Council entitled *The Economic Benefits of Participation in Regular Physical Activity*. The Federal Government followed this up with a series of Technical Reports known as *The Economic Impact of Sport and Recreation* (1988; 1988; 1989; 1992). It is quite evident that the economic focus of these reports was centred upon the health of the workforce gained as a result of active and physical lifestyles and the corresponding benefits to productivity.

A second interest of the government was the continuing concern over the financial viability of sport and recreation centres. This concern was displayed through two publications produced by the Recreation Ministers' Council: *The Financial Viability of Public Sports Facilities in Australia* (1988); and *Making Your Recreation Centre Viable* (1990).

International competition in sport has, throughout history, served governments as a means to display nationalism and regional superiority. Other than visualising sport as a way of displaying superiority, governments have had difficulty in perceiving sport as anything other than a service that they were expected to provide in accordance to the social and welfare needs of the community that they served.

Governments have always displayed concern about the health and welfare of the population and have for decades had the ability to portray relationships between the health budget, the health of the nation and the economy. The relationship between physical activity and the economy was a logical initial step for economists to analyse and for governments to use for their political advantage. More recently economists have taken an interest in sport as an income generator (e.g. *Financial and Economic Modelling of Major Sporting Events in Australia*, 1988). The findings of the economists have created a great deal of enthusiasm for selected governments to appreciate the value of sport. More recently it has also been used by governments to display their income generation abilities as well as to justify a selection of specific governments' political status and future. Some governments have become more adept at using sport in this way than others.

Probably the most astute example in the Australian scene is the Victorian State Government under its current Premier, Jeff Kennett. This government understands sport (along with the staging of other major events) as a major influence upon the psyche and community well-being of the Victorian people. The government also appreciates the contribution it can make to the economy of the state. A simple example is evident through the National Institute of Economic Research figures (in Hogan, 1997) which identify that the 1997 Australian Open Tennis Championships:

– had a gross economic impact of $82.6 million on the Victorian economy;

– attracted a total of 391,504 spectators; and,

– the spectators included 22,000 tourists from interstate and 3,788 from overseas.

This event was televised in 169 countries, with a home reach of 610 million. The television coverage was beamed into Asia for 170 hours as well as Italy (148) Germany (115) other parts of Europe (96) and the United States (42) (Hogan, 1997). There is an expected tourism impact for Victoria in the years ahead as a result of this visual exposure. This additional, tourism-based economic impact and its resultant job growth is yet to be witnessed and/or measured. The expectation is, however, realistic and is based upon the measurable outcomes from this event in previous years and the impact of similar events in the state of

Victoria (e.g. the annual Melbourne Cup and the Australian Formula One Grand Prix).

More recently interest in implications beyond the economic impact have become an additional issue of concern. Matters such as environmental, social and cultural impact have begun to receive consideration in the planning stages of special sporting events although the economic measures appear to be the most significant in deciding whether events should be staged or not (e.g. Tribe, 1992).

Aim

The aim of the research was to display the economic contribution that is made by sport and to identify factors that are to be considered by local government authorities who wish to invest in the sports industry through the development of infrastructure.

Objectives

The research analysed the role and status of sport in contemporary Australian society and portrayed the economic and employment contribution of sport to national and regional economies. Evidence is presented to display how local government authorities can identify infrastructure priorities in order to convert sport from being identified as a welfare dollar recipient into becoming a positive, identifiable and measurable contributor to the economy of a local government authority, a region and a nation. The research identifies the specific decision-making parameters to be considered if a region is to develop sport as an income generator and an industry that initiates employment.

Procedure

The research was initiated by a review of national data available through the Australian Bureau of Statistics and a selection of state government authorities. This data has been used to display the significance of sport's contribution to the national economy.

The second phase of the research centred upon an assessment of the specific needs of sport and how these needs could be prioritised. This was done by reviewing the documentation prepared by the International Olympic Committee (and similar international bodies) to identify the infrastructure requirements that sports demand. On the assumption that these ideal expectations could not be addressed in every case, by all local government authorities, efforts were then made to gain a consensus of what would be realistic expectations.

This was done by administering a Likert type questionnaire to 145 athletes who had competed on State teams or at State Championships, a delphi analysis of 13 sport administrators who had planned State or National Championship events and structured interviews with five Special Event Managers who had staged international sporting events.

This analysis was undertaken to display how regional authorities could identify the potential to tap into the economic opportunities that were available through sport. It identified the significant factors that regional authorities had to consider in their decision-making if they were to benefit from the sports industry.

Data

It is intended to present data that looks at the economic implications and then analyse the factors that should be considered when deciding infrastructure issues and planning matters.

a. Economic Factors

It is not intended in this paper to identify statistical data in order to analyse every economic indicator. Rather, the data presented are representative of relevant indicators pertaining to economic growth and employment. The statistics presented are of national significance. They represent national or state population bases but do not reflect regional impact. It is also wrong to assume that the national impact can be distributed to the regions on an equitable basis.

Much more significantly, the information presented is not formatted into standard measures and the information portrayed representing measures in one year is not identical to that which is measured in another. The data are not presented as measures to make research decisions upon. They are merely presented to portray obvious economic growth and to display the significant contribution that sport makes to the gross national product.

THE GROWTH OF THE SPORTS INDUSTRY [1]

<u>1984</u>

16-19% of average household expenditure was devoted to sport and recreation

<u>1993</u>

- a total of $595.6 million was spent by people in the state of Queensland on sport and physical activity

- sales tax on sporting goods generated an estimated $50 million for the nation

- sport generated $300 million in income tax revenue

- sport constituted 1% of the GNP ($2.5-3.0 billion)

<u>1995</u>

- the paid involvement of individuals in sport amounted to $259.3 million

- the average weekly household expenditure on sport and recreation products and services was $79

- the sport and recreation industry contributed an estimated $7.3 billion to the national economy

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1. The data used to portray the growth in the sports industry have been drawn from a selection of sources including: Australian Bureau of Statistics (1997); *Sport* (1996); *Sport Report* (1993); and *Recreation —More than a Pastime: a Guide for Recreation Industry Development* (1996).

> **EMPLOYMENT GROWTH CREATED BY THE**
>
> **SPORTS INDUSTRY[1]**
>
> <u>1993</u>
>
> – sport created 80,000 jobs (1.2% of the workforce)
>
> <u>1995</u>
>
> – employment in the sports industry increased by 23%
> – 140,000 people were employed in the sport and recreation
>   industry

b. Infrastructure Issues

The collected data was based upon a selection of parameters that were already accepted. It was already agreed upon that the economic principle of supply and demand was relevant and therefore the duplication of sports, events and/or venues was inappropriate. This factor had to take into account the immediate region as well as other geographical areas that would have an economic impact upon the region in question. It is unrealistic to think that a decision can be economically viable if it merely duplicates what is happening elsewhere.

A second issue of major concern was the matter of available expertise, enthusiasm and physical support. It was essential that this comes in three forms and the presence of all three was essential for economic viability (Tribe, 1992):

   i.   appropriate sized workforce that included administrative expertise and physical skills that were applicable to the sport;

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1. The data used to portray the employment growth in the sports industry have been drawn from: Australian Bureau of Statistics (1997); *Sport* (1996); and, *Sport Report* (1993).

    ii.   infrastructure support and expertise that was forthcoming from the local government authority, chamber of commerce, retail traders association, regional tourism board, regional promotion authority and/or community groups (e.g. Apex, Lions, Rotary).

    iii. support from the relevant state and national association of that sport or sports.

As these issues were considered essential elements for economic viability they were not considered as part of the research. This study quite distinctly identified three prioritised issues, beyond the essential ingredients, that have to be in place in order to ensure a viable investment into sport. These include, in priority order:

- an international standard sporting facility (that also takes into account the needs of the media, the sponsors, spectators and merchandising opportunities);
- transportation links requiring minimal transfers; and
- quality accommodation (classified as 3 star or better)

Although these three issues were identified as being paramount, the emphasis placed upon each by the different sources of input was not uniform.

Athletes

As could be expected, the athletes saw the venue and their accommodation as the main issues of concern. Their understanding of the venue went beyond the playing field or playing surface and included such factors as changerooms, warm-up areas and medical rooms, all of which were expected to be of international standard. The second issue of concern to the athletes was the quality of their accommodation.

The athletes saw the venue as the paramount factor in determining the success of a facility and accommodation was an important issue. However, they did not see the need to place a high priority upon other matters such as proximity of accommodation to venue, transportation or issues that generate income for the sport or event such as spectator seating, media support mechanisms, merchandising outlets or facilities for sponsors.

Sport Administrators

Like the athletes, the sport administrators centred their attention upon the competition and the quality of the venue for participants. The second most important matter to them was the need for quality off-field support in the form of accommodation, transportation as well as medical support that included specialist sport medicine expertise. Issues that were revenue generating (e.g.: facilities for sponsors, the media, and spectators) were considered secondary matters to these people. In all but one case the availability of facilities for

merchandising was identified as the lowest priority, despite the revenue generation potential of this factor.

In attempting to achieve consensus through the delphi process it was agreed by the administrators that issues pertaining to the quality of facilities for athletes and officials remained the most important. It was appreciated that revenue generation issues (facilities for spectators, the media, sponsors and merchandising outlets) had to be addressed. There was consensus that one of these issues had to be given higher priority but the feedback from this group of people was that they could not identify priorities within this income generation domain.

Special Event Managers

Structured interviews were conducted with five Special Event Managers. The interviews were scheduled after the previously acknowledged data was obtained and were structured in accordance with the analysed data that was gained from the athletes and the sport administrators. Whereas the athletes and the sport administrators both identified the issue of international standard sporting facilities as the paramount issue of importance the event managers were all adamant that an international standard facility located in a region without appropriate transport links and/or without accommodation that will satisfy elite athletes and the accompanying media will never be in position to stage events to make the facility an economically viable proposition. The input from the special event managers placed as much emphasis upon the need to cater for the media, particularly television, and the spectator facilities as they did upon the athletes and officials. Neither the athletes nor the sports administrators categorised these matters as an issue of concern. These people also placed a great deal of emphasis upon the need to prepare sponsor entertainment areas; an issue that was not a matter of significance for the sport administrators despite their concern for income generation.

Probably the most significant difference between the special event managers and the other two groups was the issue of merchandising. Merchandising was seen by the special events managers as the essential ingredient in revenue generation but it was an issue that the other groups failed to appreciate as a significant issue at all.

Discussion

Economic Data

The economic data presented is representative of the national scene, and in a selection of cases the figures are specific to the state of Queensland. They obviously do not represent an equitable distribution of income or job creation opportunities throughout the entire nation nor can they be used in isolation as a potential indicator of income to be generated through sport or potential job creation opportunities in every regional locality.

Additional data is available from statutory bodies such as the Australian Tourism Commission, the state based Queensland Event Corporation or local authorities (e.g. Rockhampton and District Promotion and Development Association Inc.) to apply formulas that enable researchers to place a monetary value upon income generated through overnight stays, visitor expenditure (whether participant or spectator) for sporting events (e.g. refer to National Institute of Economic Research economic outcomes pertaining to the 1997 Australian Open Tennis in Hogan, 1997).

Regions will have to be selective with their approach to this matter. It is quite apparent that any local government authority has to be selective in the sport, sporting events and sporting venues that they decide to base their economic planning upon. Each authority should base this selection upon economic factors that do not bring about duplication of sports, venues and/or events as supply and demand is a major issue.

It is also apparent that appropriate expertise must be available over a longer term period for economic viability to be sustained. The economic success of many events becomes most evident because of the support that is available from beyond that particular sport. This can be displayed by a non-sporting example, the staging of the Three Tenors concert in Melbourne. This event was due to be staged in Sydney at the Sydney Cricket Ground, but the promoter opted for Melbourne because of a number of reasons including " ... the superior back-up offered by Tourism Victoria and the rest of the State's infrastructure" (Yallop, 1997, p.44). To gain the support of such bodies as the local government authority, the chamber of commerce, the retail traders association, the regional tourism board, the regional promotion authority and community groups such as Apex, Lions and Rotary is an essential ingredient to display and share economic benefits and employment opportunities to the community. To stage an event effectively it is also essential to gain the support of that sport's state and national association.

What is evident is that the distribution and the availability of income generated by sport will not be equitable throughout a nation and most opportunities will be

centred upon large population pockets, especially capital cities. Population size or distance from a capital city are limiting factors but definitely not prohibitive issues as can be displayed by the previously discussed Australian motor cycle Grand Prix example.

Infrastructure Issues

Some of the infrastructure issues are more evident than others. Sport has to be in a position to create a profile through the media to gain optimal economic benefits. This requires the ability to attract national and international athletes. An international quality facility is essential for this to happen in most cases.

But in order to attract national and international standard athletes the infrastructure must also care for the athletes' welfare and not just focus upon the playing field or playing surface. A successful event, in financial terms, is one that attracts top quality athletes but more importantly, an event that entices them to return to future events. This requires the availability of international quality facilities at the venue (including changerooms and medical rooms), accommodation that is rated at least three star quality and transportation from capital cities through direct links that require a minimal number of transfers.

Although the response from the athletes appeared to be extremely selfish and self-centred it was confirmed by the administrators and the special event managers that such consideration was essential to ensure financial success. In most instances a sporting event will not achieve instant success but rather the essential ingredient for financial viability is repeat events. The administrators and special event mangers saw this as an issue that had to be addressed by supporting the needs of the media, the sponsors and giving special consideration to the merchandising elements of event planning. There is plenty of evidence to suggest that merchandising that is associated with sporting events and venues is the most significant revenue earner and job creator facet of sport (Miers, 1996). The findings of Miers confirms the input gained in this research from the special event managers.

Conclusions

Although most people see sport as nothing more than a game it has the potential to be a major contributor to an economy. It can now be displayed as a multi-faceted industry that supports the gross national product by generating millions of dollars, creating employment opportunities, promoting tourist income as well as having the potential to reduce the nation's health expenditure. It not only benefits the economy of nations but can have direct impact upon the economies and productivity of regions and local government authorities. Any local government authority that has the vision to enter this new industry must base its

planning and development decisions upon economic factors, workforce issues and input from sport.

A successful economic decision will not duplicate what is happening elsewhere; it will be founded upon the availability of known locally based expertise, skills as well as enthusiasm and will have the support of the appropriate state or national associations. Beyond these factors, the planning will ensure the availability of a quality facility that meets international specifications. However, the quality expectations do not only have to serve the athlete but must also take into account the needs of the media, the sponsors and the merchandising opportunities if the venture is to become an economically viable operation with job creation potential.

Sport creates jobs. In the case of sporting events and venues in regional settings there are opportunities for full time positions to be created as well as many specifically generated part-time and short term employment opportunities.

Finally, the most successful ventures will be located in regions with access via transportation links that require minimal transfer; and, in locations where quality accommodation is available to athletes, the visiting media and tourists.

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The Use of Artificial Intelligence Techniques in Cane Railway Scheduling

Fae Martin, Arthur Pinkney

Abstract

Cane transport is the largest unit cost in the manufacturing of raw sugar, making up around 35% of the total manufacturing costs. Producing efficient schedules for the cane railways can result in large cost savings. Constraint logic programming is an artificial intelligence technique that has been successfully applied to other real-life scheduling problems. Constraint logic programming utilises the simplicity of a logic programming language such as Prolog, combined with the efficiency of constraint techniques.

This presentation will describe the cane railway scheduling problem, give an outline of constraint logic programming, its advantages over other programming languages and indicate how it may be used in cane transport scheduling.

Introduction

In Australia, there are more than 3600 kilometres of cane railway track and 250 diesel hydraulic locomotives at 23 sugar mills (James 1993). More than 90% of harvested sugar cane is transported to the sugar mills by the cane railway system. An average mill processes approximately a million tonnes of cane in a crushing season that lasts about 20 weeks. A mill may maintain around 150 kilometres of track for the transport of the harvested cane from the paddock to the mill (Pinkney & McWhinney 1993).

Constraint logic programming (CLP) is an artificial intelligence technique for applying declarative programming languages such as Prolog (as opposed to procedural languages such as Fortran) to hard combinatorial problems like the cane railway system. When using a procedural language, the programmer must specify exactly how the program works, step by step. In a declarative language the emphasis is on what the program does. Traditionally, logic programming was seen as being good for modelling because the programs were shorter and easier to follow than their procedural counterparts. However, they were also too inefficient to use on real applications. CLP combines the advantages of both logic and procedural programming. It is a declarative language but is efficient enough to use on real-life problems.

The cane railway system

Description

The layout of a simple but realistic cane railway network is shown below in Figure 1. A typical system consists of several branches, each with many sidings. The cane trains deliver empty bins to the sidings where the bins are filled with harvested cane. The bins are then collected from the sidings and transported back to the mill where the cane is processed.
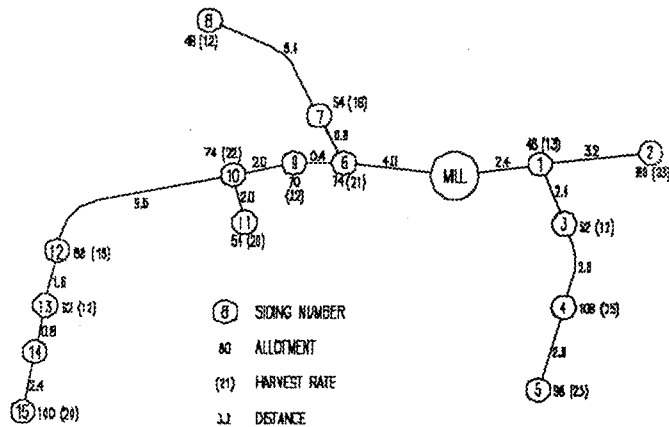
Figure 1. Layout of the cane railway sample case study

There are many constraints that must be taken into consideration when producing a schedule:

- *Supply of cane to mill.* The schedule must ensure that the mill has a steady supply of cane.
- *Supply of bins to grower.* Each grower has a specified harvest rate, which determines how many empty and full bins are at the siding at any given time. Empty bins must be supplied to each grower at times that ensure harvesting is continuous. The siding should not run out of empty bins during the harvest period.
- *Allotment.* Each grower/siding has a daily allotment of bins that often exceeds the capacity of the siding, making at least two deliveries and two collections per siding per day necessary. Total deliveries (and total collections) to a siding must equal the siding allotment.
- *Siding capacity.* The sidings where the empty bins are delivered and full bins are collected have a finite capacity that cannot be exceeded.

- *Harvesting times*. Harvesting commonly takes place between 6 a.m. and 6 p.m. whereas the mill crushes continuously 24 hours a day. The cane trains also operate around the clock. Harvest start times may be determined by the transport schedule but must lie in a given range.
- *Collection of full bins*. The maximum number of full bins that a train can collect is determined by the number of bins that have been harvested at that time (and any fulls still there from the previous day).
- *Mix of bins on a train*. For safety reasons, it is not possible to have a mix of empty bins and full bins on a train. Therefore, all deliveries must take place before collections.
- *Locomotive capacity*. Each train can haul a given maximum number of empty bins, and a (smaller) maximum number of full bins. These values vary depending on locomotive type.
- *Locomotive speed*. The trains have different maximum speeds depending on whether they are hauling empty bins (or no bins), or full bins. These values are also dependent on locomotive type.
- *Shunting time*. Time must be allowed for the train to deliver or collect the bins from each siding, and at the mill yard.
- *Track conflicts*. Only one train can be on a particular section of the track at a time.

The objectives of the schedule are:

- *Number of train shifts*. The number of trains required and the number of shifts that the trains work must be minimised.

- *Cane age*. Harvested sugar cane spoils if it is not processed as soon as possible after harvesting. As the time between harvesting and processing increases, the sucrose content of the cane deteriorates. Not only does this result in lower sugar yield, but it also makes the cane more difficult to process at the mill. It is therefore desirable to minimise the time between harvesting and processing. This objective must be balanced against the conflicting objective of minimising the number of train shifts.

The aim of the scheduling program is to produce a series of runs for the trains that satisfies the constraints and achieves the objectives listed above. A run consists of a list of sidings, the activities carried out at the sidings (number of bins delivered or collected) and the times those activities take place.

Previous work in automatic cane railway scheduling

The automatic cane railway scheduling system (ACRSS) is a program initially developed by Dr D. Abel as his PhD project at James Cook University and later extended by the Sugar Research Institute. ACRSS automatically produces an optimal (or near-optimal) set of runs for a mill's cane railway system for one

day's operation (Pinkney 1988). It requires only minimal user input. If unexpected events occur during the day, the program cannot modify the existing schedule but can only produce a completely new schedule that may be radically different from the current schedule. Recently, computer based Traffic Officer Tools have been developed (Pinkney & Camilleri 1996) that use a spreadsheet interface to show day to day operations of the railway system, but these tools function only as a monitoring system. They do not actively propose solutions if changes are necessary to the schedule.

Constraint logic programming

Applying artificial intelligence to operational research problems

Recently, the application of artificial intelligence techniques to operational research problems has been explored (Waters 1990). Expert systems have been applied in operational research domains including vehicle routing (Potvin, Lapalme & Rousseau 1990) and a bus driver duty estimator (Zhao, Wren & Kwan, in press). Expert systems help the user make good decisions, rather than make the decisions for them. They may allow the user to interactively change priorities or they may produce several alternative schedules.

Logic programming languages like Prolog can easily be used to express relationships between objects, and are therefore excellent for artificial intelligence applications (Bratko 1990).

For example:

> sister (X, Y) :-
>> parent (Z, X),
>> parent (Z, Y),
>> female (X),
>> different (X, Y).

The advantage of logic programs is that they are usually much shorter and easier to follow than the equivalent procedural programs, since the programmer does not specify how the program is to execute, only what it is required to do. This results in them being more flexible. It is easier to make changes to a program, and easier to give the end user some control over the way the program runs. However, traditional logic programs have not been used much in industrial applications because they are generally slow to execute due to the way they get to a solution. They use backtracking to find all the possible solutions. Each solution is checked to determine if it satisfies the constraints, and then compared to the previous best solution in order to find the optimum.

Constraint logic programming

Constraint logic programming (CLP) is an extension of logic programming languages that incorporates constraints and constraint solving methods (Van Hentenryck 1989; Jaffar & Maher 1994; Cohen 1990). Values that a variable cannot take due to constraint violations are removed from its domain before any attempt is made to evaluate the variable. This results in a considerable reduction in the search space, therefore making the advantages of logic programming available to hard combinatorial problems such as scheduling the cane railway.

As a simple example, consider two variables x and y. Let the values that each can take (the variable domain) be as follows:

$$x \text{ can be } 3, 4, 5 \text{ or } 6$$
$$y \text{ can be } 2, 3, 4, 5, 6 \text{ or } 7$$

The constraints to be:

$$y > x + 2$$
$$x + y = 10$$

A traditional logic program would try all combinations of the values that x and y can take. So, it would first try x = 3 and y = 2. Since this does not satisfy the first constraint, it would reject this answer and try the next possibility. In all, 4 times 6 or 24 combinations would be tried.

In contrast to this, if we use CLP, the first constraint will immediately result in the domain of y being reduced to:

$$y \text{ can be } 6 \text{ or } 7$$

The second constraint then reduces the domain of x to:

$$x \text{ can be } 3 \text{ or } 4$$

All other values have been eliminated before the search begins, resulting in a search space of 4.

Repairing an existing schedule

In real systems, unexpected events such as machine breakdown occur that can render a schedule invalid. In this case, a new schedule needs to be produced that takes account of the new operating conditions. However the new schedule should not be radically different from the existing one, particularly if the work period is already under way. The repair problem for aircraft fleet assignment has been tackled using ECLiPSe. ECLiPSe is a Prolog based system with additional features including finite domains and generalised propagation (ECRC 1995). A subset of the current set of variable assignments is selected for possible change.

The program then searches for a solution complying with the new constraints (Sakkout 1996; Simons 1996). If no solution can be found, one of the variables from the subset is chosen at random to be swapped with a variable previously not in the subset, and labelling of the variables is again attempted. Successful labelling of the variables means that each variable is given a value that is consistent with the constraints. If labelling is successful, the new minimum cost is stored and the process repeats. Since the rescheduling program only needs to relabel a small subset of the variables, the repair problem may be successfully applied even in cases where CLP was unable to solve the overall scheduling problem efficiently.

User control

An important ingredient in producing a quality schedule is to allow the user to have some control over the schedule generation process. For example, the user may wish to restrict the availability of a resource (Duncan 1994), or direct the search for a solution based on preferences (Belton & Elder 1996). Both these strategies are easily implemented in CLP by adding extra constraints. It is also possible to create a graphical interface so that the user can interactively reduce the domains of variables during program execution.

Application of CLP to cane transport scheduling

CLP has been applied successfully to financial simulation (Bisiere 1994), transport (Le Dizes & Guimaraes 1992), construction scheduling, graph colouring (Dincbas, Simonis & Van Hentenryck 1990), hypothetical reasoning in chemistry (Jourdan & Valdez-Perez 1990), design of private data networks (Narboni 1994), cutting up of wood panels (Rueher & Legeard 1992) and circuit verification (Wallace 1996). Importantly, a real-life fleet scheduling application with 21 delivery points and 34 trucks of variable capacity has been solved using CLP (Christodoulou, Wallace & Kuchenoff 1994). Most of these problems were similar to the cane train scheduling problem in having a search space that had made them difficult to tackle with more established operations research approaches.

If a problem is very large (more than a few hundred variables), CLP is a good framework to use because it is relatively easy to implement problem specific information (Chamard et al. 1995). Even a simple model of the cane train system has several thousand variables. Also, if it is required that the program be frequently updated, or that the user be able to interactively affect the outcome of the search, CLP is an appropriate methodology. For some problems, constraint programming is able to give a solution where other more traditional techniques could not (Smith et al. 1995).

As outlined in section 2.2, there is an existing automatic scheduler available for

the cane train system. It is likely that even with the advantages of CLP, an optimal solution for the scheduling problem will not be found. However, by allowing the user some control over the search, CLP may go some way towards increasing user acceptance of automatic scheduling.

The other major area where CLP may be useful is in the repair of existing schedules. If unforeseen events render the current schedule invalid, CLP has the capability to produce a new schedule that is not too far removed from the original but still satisfies all the constraints. It may be in the repair of the cane train schedule that CLP achieves its potential.

Conclusions

Scheduling the cane railway system is a difficult and unusual problem. Around 35% of the costs of processing sugar cane are transport related. For a typical mill, this amounts to around $2 million annually in total transport costs, of which approximately one half is operational cost (Pinkney & McWhinney 1993). Consequently, any increases in the efficiency of the scheduling of the system can result in large cost savings.

Constraint logic programming has been successfully used for a wide range of problems including real-life scheduling applications. It is therefore considered worthwhile to investigate whether this approach can be applied to the cane train system. CLP has also been shown to be an appropriate technique for rescheduling. When unforeseen events occur rendering an existing schedule invalid, the schedule is repaired to give a new schedule. This new schedule complies with the latest constraints but provides as little disruption as possible with respect to the previous schedule. Rescheduling of the cane trains has not been previously attempted, so this is a new and exciting field.

Acknowledgements

Abbreviations

CHIC: Constraint Handling in Industry and Commerce.

ECRC: European Computer-Industry Research Centre.

OR: Operational Research.

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Fractured Visions:
Imagining a Mackay Sugar Museum

Geoff Danaher

Abstract

Mackay has long defined itself through its relationship with the sugar industry, and indeed the gaze over the cane fields is one of the enduring features of this campus. Sugar is as much a cultural product as it is an agricultural product, and as such has played a constituent role in the making of local, state and national community identities. Accordingly, a theoretical approach associated with cultural studies can help to unpack the meanings we make of sugar, and the politics of the gaze over the canefields. This paper intends to explore the practical implications of such an approach for the possible construction of a Mackay sugar museum.

Introduction

Cultural heritage and tourism are two terms that are routinely invoked as answers to what some commentators equally routinely claim as the 'crisis' facing regional Australia. This crisis has been attributed to factors such as the drought, climate change, globalising of Australia's economy, the rural-urban drift, and the decline of rural industry as a proportion of the nation's economic base. It would be difficult to sustain an argument that Mackay was experiencing such a crisis. On the contrary, projections indicate that Mackay's challenge in the future will be in terms of successfully managing its growth. Nonetheless, it can be argued that cultural heritage and tourism can play a role in a future vision for Mackay, in terms of performing and promoting the city's identity. In this paper I propose to take the notion of a Mackay sugar museum as a starting point for considering how such a heritage site might contribute to a creative performance of regional identity within the context of globalising forces that will increasingly impinge upon that identity.

At first glance, it might seem surprising that Mackay has no sugar museum. As a product that provided the impetus for European settlement of this region and which throughout its history has underpinned the city's economic growth, its role in shaping Mackay's identity is enormous. Such that when CQU Press launched a collaborative project to record the town's history, *Sweet Settlement* was the

logical title. No doubt there are a complex range of issues that would make such a museum project difficult. Rather than work through these problems here, what I want to do is offer a vision of a Mackay sugar museum that seeks to take account of the rich performance possibilities evoked by such an image.

Methodology

The theoretical approach I am deploying offers a fractured vision. It is an approach that recognises institutions like museums as significant sites in the making of local identities. That is, museums help to construct our identities and shape the way we make sense of the world. We can adopt this approach to understand the construction of identities generally as being (per)formed at the interface between discursive flows, technological forces and institutional procedures on the one hand, and the imaginative and perceptive apparatus of the subject on the other. So I understand subjectivity as involving a performance space: the person performs a role as subject in the various spaces through which s/he is interpellated or addressed. Such roles include citizen, student, conference speaker and museum visitor.

The institution of the museum has constituted its visitors in historically specific ways. The development of museums throughout the Western world in the eighteenth century reflected a faith in the improving quality of culture. Museums were established in opposition to, and as a civilising defence against, the popular pleasures of the carnival, which involved spectacular displays of oddities and monstrosities such as the Elephant Man. Museums were designed to educate the populace in the higher virtues of civilisation.

As Robert Hughes wrote of the role of the museum in America:

> By the 1880s ... in its great and growing prosperity, America wanted museums. But they would be different from European ones. They would not, for example, be stores of imperial plunder, like the British Museum or the Louvre. (Actually, immense quantities of stuff were ripped off from the native Indians and the cultures south of the Rio Grande, but we call this anthropology, not plunder.) They would not be state-run or, except marginally, state-funded ... Here, museums would grow from the voluntary decision of the rich to create zones of transcendence within the society: they would share the cultural wealth with a public that couldn't own it ... The public museum would soothe the working man – and woman too. The great art of the past would alleviate their resentments. William James put his finger on this in 1903, after he went to the public opening of Isabella Stewart Gardner's private museum in Boston, Fenway Court. He compared it to a clinic. Visiting such a place, he wrote, would give harried, self-conscious Americans the chance to forget themselves, to become like children again, immersed in wonder.

The idea that publicly accessible art would help dispel social resentment lay close to the heart of the American museum enterprise. (1993: 178-180)

So museums were conceived as sites wherein the subject could transcend her/himself and be culturally and morally improved. The organisation of the museum space, the arrangement of the artefacts in relation to the viewer's gaze, the way in which the viewer was directed around the space by the arrangement of exhibits, the containment of noise or overt signs of emotion, the sense of knowledge about the world and its object which the exhibits inculcated: all these techniques and forms of control worked in the construction of a museum visitor. Tony Bennett (1995) relates the birth of the modern museum to an assemblage of exhibitionary complexes whose goal was the formation of manners for well-tempered citizenry.

The museum project was complicit with other complementary disciplinary mechanisms – among them school education, public health, and military training – aimed at distinguishing civilised from barbarous people and behaviours. Civilisation – the word itself only dates from the end of the 18th century – depended upon the establishment of such distinction and distance.

The scientific paradigm which informed the museum project was empiricism, which held that the real world lay 'out there', waiting for uncovering and discovering, and it was the task of civilised and knowledgable people was to go and collect bits of it for examination. Empiricist practice expressed the values of colonialism, going out (that is, projecting yourself into space), conquering a terrain, and absorbing it into your institutional frame of reference. Museums then provided a point of mediation between the colonial acquisition abroad and the imperative to culturally and morally improve people at home.

This is the historical project of the museum, but it has been challenged by the technological and philosophical forces that some people refer to as postmodern, and which I express in terms of the idea of the museum as a performance space. In terms of sugar, this means regarding it not as a fixed commodity but rather as a narrative around which meanings are fashioned, and which, as such, becomes absorbed into the politics and ideologies of community identity.

Such is the wealth of meanings read into sugar, in terms of its history in the cultural context of Mackay's settlement, that we can recognise sugar as a contested and congested space of stories. As such, various interests buy into this space and seek to appropriate it as part of their systems of meanings. As much as being a product of financial investment, sugar is a site of ideological investment.

A palimpsest traced over and over

One approach for a museum project engaging with the contested values attached to sugar would be to establish a hierarchy of meanings, distinguishing between

proper and improper uses of this sign. From this perspective, recognising sugar as playing a fundamental role in Mackay's economic development might be regarded as a proper use of the sign, while working through sugar's links with the production of alcohol might be seen as less proper. This approach would be to impose an order of meanings, something that lay at the heart of the traditional museum's regulation of space.

A more creative approach would involve not imposing such meanings, but rather allowing the values and narratives attached to sugar to contest each other, to jostle for visitors' attention within a disordered liminal space of exhibition. This approach would be to recognise the sugar museum space as a palimpsest, a site within which various stories have been traced out, inscribed and faded. What remains of these stories is their traces and the babble of their different voices. The museum project, as I conceive it here, is to engage those traces and set off the affects and meanings that they generate.

Let's then consider possible performance of some of these traces and how they might jostle with each other within a contested space. This selection of performances is both random and inexhaustive. There will certainly be other ways of making sense of sugar and its history. The intention here is to consider how such performances might be worked through.

The first example emerges in a television advertisement for Coca Cola, set against the backdrop of a sugar cane farm on a hot and humid evening, lightning crackling against the night sky. The text attaches itself to a series of metonyms associated with a mythical Australian, Queensland and Mackay identity – sugar cane, fire, heat, humidity, thunder storms, white bodies – and reworks these values within a narrative performance of (sexual) desire that connects fulfilment with imbibing a soft drink. What is suggestive in this performance is the way in which advertisers and other text makers co-opt and re-work values associated with different imaginaries: national, sexual and so forth.

The Coke advertisement is, from a certain perspective, an almost literal example of cultural imperialism (Coca Colonisation), wherein a rich and powerful transnational company appropriates the images and values associated with a Queensland/Mackay identity to sell its product. This reading can be rather disempowering, suggesting that not even is our cultural heritage sacrosanct from the grasp of the transnational. Yet, more positively, the text points to a globalised image environment in which everything is up for grabs.

We can respond to this environment through recognising that every text is enmeshed with the traces of other performances, and that working through these traces can produce a performance space that is creative and empowering.

Other traces, like the Coke advertisement, display the effect of force upon the terrain (both physical and symbolic) over which sugar has been forged and

contested. When I approached one historian about presenting a paper at this conference, he said that when he looked over the canefields all he saw was blood. Certainly then this museum should devote space to meanings accruing from the dispossession of the indigenous people. For a story of linear progress – sugar as underscoring the development of Mackay – is a grand narrative that inters another story, the story of dispossession. Giving due notice of that other story, whose narrative slips and slides and inhabits the overlaying story just as much as the grand narrative of progress parasites the indigenous, is as much a part of reconciliation as any other issue on the table today. Reconciliation is not about stilling the flow of story, but of engaging its tensions, its rhythms.

Similarly, the museum should draw upon the complexities of the South Sea Islander experience. While working through the hardships and exploitation experienced by Kanaka labourers, the legacy of the development of the South Sea Islander community within Mackay also needs to be given voice. The Kanaka recruitment was also significant in marking a significant landmark (or associated nautical metaphor, such as highwater mark) of Australians' engagement with Pacific, after the ending of British East India Company's monopoly in the region in the 1850s. This trace resonates within our political and economic imaginary today.

Likewise, in terms of our status as a multicultural community, sugar's role in the establishment of migrant links with Maltese community marks out a trace whose legacy significantly informs the makeup of Mackay today. Canecutters themselves endure within our national imagining, partly as a result of their political activism, but more, and relatedly, in terms of their status as icons of Australian identity. Workers who endured harsh conditions but who were well rewarded: a mock heroic role explored in 'classic' narratives across a range of media, in opera and drama – *Summer of the Seventeenth Doll* - and in fiction and television drama – *The Thorn Birds*. Similarly, the cane fires are worth exploring in terms of their generation of heat, colour and drama, traces taken up in Ian Bofinger's paper at this conference, the Coke advertisement and other narrative threads.

Economic imperatives

Given current governmental imperatives, this museum project needs justification in terms of an economic rationale. In this context, the mythical $64,000 question is whether such a museum and its stories therein can sell. In answering yes, a few points can be emphasised. First, such a museum is advantaged by its strategic location near Whitsundays and within the Pioneer Valley. Second, such a museum taps into the eco-tourism potential of sugar, whose exotic history and multi-faceted applicability lends itself to an enriching touristic experience. Third, the sugar industry itself is conscious of the need for value-adding,

something which connections with eco-tourism through a museum project can facilitate. Fourth, Phillip Gasteen (1997) of BHP Coal has indicated that in excess of one billion dollars will be circulating through this region's economy over the next three years. These economic boom conditions provide a viable financial environment for such a museum project – with its medium and longer term economic prospects – to be countenanced.

To justify the kind of museum project recommended, it cannot rely on static displays and earnest if tedious processes of exhibition. The museum needs to appeal to, and engage with, a contemporary media savvy audience, accustomed to the interactive image flow of computer games and the Internet. Accordingly this museum needs to be multi-mediated, involving sound and light shows, different special effects, and engaging an imaginative performance of its exhibits. Such technology lends itself not to static engagement but rather to mobility, to engaging a liminal experience that reflects and conveys the movement and multi-accentuality of sugar in its textual and imaginative traces. So here the economic imperative for a visually appealing museum space connects, rather than competes, with what is a cultural imperative to promote diversity. Both economic and cultural imperatives resist the vision of sugar as some fixed commodity complete unto itself and unchanging over time, but conceive it rather as a floating signifier attaching itself to different narratives, different regimes of value, different meaning systems.

This slippery status is affirmed by sugar's status within the international economy today, shorn of its secure mooring to tariffs, adrift in the high seas (and high Gs) of international market speculation. And if sugar is to respond to this new competitive and uncertain environment, it has to be recognised and communicated as a multifaceted product, not reified within a single structure of meaning, but fluid enough to flow into different spaces and resonate within them. So there is a connection between the globalisation of sugar and the performance of it in the kind of postmodern museum space I'm advocating. What these projects share is the unfixing of the values by which the physical and linguistic concept of sugar has been reified, so that the concept derives its value from its fluidity, its slipping and sliding across different symbolic orders, that symbolic order associated with international market forces, and that symbolic order associated with the meaning making within a heritage site.

This liberalising process is not without its pain. The removal of tariff protection does add an element of insecurity to canegrowers. Similarly to deny there is one, proper story (a grand narrative) relating the triumph of sugar as an unproblematic success story for the region, is to expose us to other stories which are to some extent uncomfortable. As indeed the whole business of chasing tourists is to some uncomfortable, it opens the community, and our image of it, to the scrutiny and intervention of outsiders.

Nor should we be naive about suggestions that what is involved here is a free and open competition about meanings and values. The level playing field is as illusory in the field of symbols as it is in the field of international commodity exchange. The competition over both the utilisation of territory and the value of the commodities that accrue from it has ever been subject to the claims of powerful vested interests. In terms of commodity exchange, this means being flexible and culturally literate in playing the systems, working through the mechanisms and protocols and procedures of the market to achieve something beneficial. In terms of a museum, it means being attendant to the ways in which the various stories and images are dispersed and appropriated within different orders of meaning.

Conclusion

But not to engage in these activities is to close off a space, to retreat into a narrow view of the world and our part in it. Such a narrow vision is something to which too many influential figures within the Australian imagined community have confined themselves over recent months. By recognising rather that heritage is a matter of performance, just as indeed commodities are given meaning and value within the framework of performance, we can offer at once a fraught and uncertain, but also creative and exciting, vision of Mackay.

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Fishing, Family and Friends: Australian South Sea Islanders and Literacy

Robyn Cox , Grant Webb

Abstract

The following paper seeks to outline a project which was part of a 1995 National Professional Development Program (DEET) funded project "Developing responsive language programs in schools". The research project sought to identify and compare definitions and notions of literacy from a variety of perspectives within one educational setting. The project based in Mackay, Queensland, was conducted within a primary school and its community which has a high proportion of Australian South Sea Islanders (ASSI).

More broadly, this paper attempts to highlight the inextricable link between education, language and literacy and social justice, and the need for teachers to constantly redefine their notion of literacy by exploring, recognising and valuing the different cultural and language backgrounds of the children they teach.

Introduction

Through the Human Rights Commission report (1992), *The Call for Recognition – A Report on the Situation of Australian South Sea Islanders,* the ASSI community has recently been recognised as one of the most disadvantaged groups in Australia. The paper will initially present a very brief historical overview of this group's participation in Australian society since 1850.

The paper will then deal with educational issues surrounding literacies and students from minority groups, and finally a number of implications will be explored. Throughout the text there will also be exploration of some themes underpinning the project, namely, the notion of teachers as cultural researchers, culturally appropriate ways of collecting data from a minority group and the importance of a curriculum development process which involves community and teacher partnerships.

During interviews and group discussions, members of the ASSI community emphasised the belief that cultural literacy, including home language and oral language customs, were a vital part of being literate. This group also expressed the desire for children to be allowed to maintain their home language as well as

learn standard Australian English. These results highlighted the need for a more detailed investigation of the language (in particular the oral language) of ASSI children and how it may reflect or contrast with standard Australian English so that a greater understanding of these students' distinct educational needs might be achieved.

Background Rationale

In order for teachers to be in a position to develop language programs which have an applied orientation for the classroom, sound relationships between community groups and schools need to be created. In this way, these groups can work more easily together to identify values, beliefs and notions about literacy, and in turn create culturally appropriate materials that can be accessed by both teachers and members of the community.

According to Metge (1990), schools need to draw on cultures in the local community as sources of knowledge, ideas, and ways of doing things to enrich all aspects of school life. Also teachers need to know about the language background of the students in their class in order to identify and evaluate appropriate classroom materials.

Raising teachers' awareness of communities' notions of literacy in which their students live is essential. Generally preservice and inservice education have not equipped teachers with the knowledge or ability validly or sensitively to determine local literacy practices or the views on literacy of culturally differing groups. Without such understanding, development of responsive English programs at both the school and classroom levels cannot occur.

If schools are to be better placed to enhance the development of students' use and knowledge of public forms of language, they must be able to educate themselves and their students in local forms of language that constitute daily life in the local community. Culturally appropriate processes need to be developed in a consultative manner.

According to Alcoff (1991) individuals (including academics) in positions of power must ask themselves whether the practice of speaking for others, in particular those who are less privileged, is ever a valid practice. Alcoff also stresses the need to "develop strategies for a more equitable, just distribution of the ability to speak and be heard" (p. 29). These notions were supported by the study team, and at all times the aim to work in accordance with the perspectives of the South Sea Islander people was viewed as paramount.

Project Objectives

The project's main objective was the investigation of a community's values and beliefs about literacy and how schools and teachers in this community can learn

more about these notions in order to develop responsive language programs for all students.

The project also aimed to determine efficient and effective:

- research methods that enabled them to identify and describe literacy practices in a school and the community in which the students live
- collaborative processes that enabled them to use information about literacy practices to review and revise the School English Program to improve the learning opportunities and learning outcomes for all students.

The project also aimed to offer, in a valid and culturally sensitive way, community members the opportunity to comment on cultural aspects of local language and their view of literacy. This includes forms and uses of a community language which is a different language from that used in schools, and how this community language may obstruct language learning within the school context.

Research Site

The particular focus of this project was a community of Australian South Sea Islander children involved in a school homework program at a state school in Mackay which has a high percentage of Australian South Sea Islanders (ASSI).

The school community is of a diverse nature with respect to socio-economic status and ethnicity, and on the whole the teachers were enthusiastic about opportunities to be responsive to the needs of these groups, as a result of the school not having a specialist source of information about children from the ASSI community.

Research Team

The project engaged the services of a full time project officer who was an early childhood teacher from the school. This enabled two processes to take place. Firstly the staff of the school had already established relationships with the teacher and secondly the community had belief in the project as they perceived the project officer to have genuine concern for the educational needs of their children. This factor became imperative as the project continued. The other two members of the team were a university researcher and a learning support teacher from a nearby school.

Neither the project officer nor the two other members of the team are South Sea Islanders. This aspect is important. The project team was engaging in substantive representation (Singh, 1995) which is representation for or alongside the racially oppressed (as opposed to ascriptive representation where the person

who is talking shares traits such as race with those about whom they are speaking). At all times the team was aware of the social and political viewpoint of the South Sea Islander people involved in the study.

South Sea Islander History and the Call for Recognition

Australian South Sea Islanders are a black ethnic minority, descended from immigrants from various islands in the Pacific (largely Vanuatu and the Solomon Islands), who were recruited to Queensland between 1863 and 1904, primarily to assist in the development of the sugar industry and some to work in the pastoral industry.

Since the arrival of the first South Sea Islanders in Queensland, debate has continued over the extent to which South Sea Islanders were kidnapped, and on the morality of the South Sea Islander labour trade.

Historian Clive Moore (1992) estimates that 15 percent of the 55,000 to 60,000 original South Sea Islanders recruited to Queensland were kidnapped and brought to Australia by force. Indeed, this group of people is considered by some (including Australian South Sea Islanders themselves) to be the descendants of slaves.

Discriminatory legislation in Queensland between 1900 and 1940 led to many South Sea Islanders being deported. Families were separated and those who stayed were marginalised from the sugar industry, as unemployed white residents were hired to work in this area.

It is estimated that there are 10-12,000 Australian South Sea Islanders living in Australia today, a large proportion of whom reside in the Mackay region. As stated by Gistitin (1995), "the community of South Sea Islanders in Mackay today are the descendants of those who made their homes and established families in the area when they declined to make the return passage to their islands at the end of a three year term of indenture, or perhaps re-enlisted for subsequent terms following a return home" (p. 3).

In 1992, the Human Rights Commission carried out an inquiry into the position of Australian South Sea Islanders. The resulting document, *The Call for Recognition* (1992) concluded that the South Sea Islander community was poorer than most other sections of Australian society and recommended that this group be formally recognised by the Federal government "as a unique minority group which is severely disadvantaged as a consequence of racial discrimination" (p. 71).

Specific recommendations from *The Call for Recognition* report called for all the stakeholders in the formal education of South Sea Islander children need to be responsive to the community's values and beliefs, and provide educational

services in a consultative, equitable and culturally relevant manner. This report also suggested 'the government should take steps to increase public awareness of South Sea Islanders and their role in Australia's history, including through inclusion in school curricula...' (Human Rights Commission, 1992, p.72).

The report concluded that as a group, South Sea Islanders are in a situation of high need, with particular difficulties observed in school retention and employment skills.

The Call for Recognition (1992, p. 48) outlines research by Bliss (1992) that South Sea Islander students experience numerous difficulties in education. These are:

*   Islander students continue to experience difficulties in language skills and mathematics.
*   They do not have the right to an appropriate education secured in government policy.
*   Very few services exist to support Islander students' educational difficulties.
*   South Sea Islanders are a minority group in education.
*   Islander students experience considerably higher rates of difficulties in education than their non-Islander peers.
*   Any census could underestimate the South Sea Islander student population and, therefore, underestimate the extent of the difficulties they experience in education. (Bliss 1992)

Outcomes for South Sea Islander students in our schools are still unacceptably low. For too many from the South Sea Islander community, the education system is becoming more a 'gatekeeper' to 'achieving' (economic and higher educational) success in the dominant culture and the community that surrounds this culture. This is evident in the under representation of South Sea Islander students in university settings.(Mullins, Cox, Fatnowna, Gistitin, Kennedy and Warkill 1996)

Because of this document and the empowerment of this community, it is hoped that in the near future substantive representation would not be appropriate from project teams such as this one and ascriptive representation would be highly valued by the dominant culture.

Language, Literacy, Education & Social Justice

Social justice, literacy, language and education can no longer be separated, but must become inextricably linked. Corson (1993) believes that educational institutions such as schools commonly value one kind of language use more than other kinds – a kind that comes from only one group within society (and a dominant one at that) so that the other languag-users feel left out and struggle to understand the school-preferred way of using language.

> Australian English is that national variety of English in Australia, distinguished from other national varieties, such as British and American English, chiefly by pronunciation and vocabulary. It comprises standard Australian English, which is the variety used in schools, and a number of colloquial varieties. Students have any one of these varieties as their home language. (Curriculum Corporation, 1994, p.4)

This statement goes on to elaborate that while teachers should respect the students' home language, teachers also have the responsibility to teach the forms and usages generally accepted in Australian English. Teachers are expected to develop in students an increasing proficiency in the use of standard Australian English.

Malcolm (1995) emphasises the need for teachers to learn and value the oral culture of non-standard dialect speakers and to understand their distinctive literacy needs (p. 13). He advocates a bi-dialectal educational approach, that is, one which affords equal respect to both standard and non-standard varieties of English and "recognises the distinctive needs for support which these learners have as distinct from mother tongue English learners and from ESL learners"(p. 15).

Teachers need to consider that there are multiple literacies as opposed to one literacy, because what counts as literacy is different in different historical, social and cultural contexts. Street (1994) states that we can no longer think about literacy as though it were a single thing and that researchers have to ask themselves which literacies the community already have. Acknowledging that there are different literacies leads teachers into the realm of social justice and power relations.

Luke (1983) supports the notion that language is socially constructed, that is, that perceptions of literacy vary according to "knowledges and values, ideologies and world views", and, further, that "literacy and education are means for access to cultural knowledge and social power" (p. 6). In light of this, Luke goes on to propose that "the teaching of literacy requires social and cultural analyses of literacy in contemporary society and, crucially, of how it is part of the lived experience and futures of children and their communities".

This clearly constitutes a challenge to classroom teachers which is both personal and professional as it suggests the need to understand and value the language of non-standard dialect speakers, and, further, use this knowledge to support learners in the growth of this language as well as the standard variety of English.

Unfortunately, despite the calls to recognise language differences, there is evidence to suggest that those involved in education are struggling to take up this challenge. For a number of minority groups, including the Australian South Sea

Islander community, a lack of knowledge about individual language differences has meant schools have failed to provide them with the support they need to achieve.

The way that teachers approach the language of these children in our schools is a crucial point. For many years, the language of these children has been seen as deficit compared with standard Australian English rather than different.

According to Singh (1995), difference has always been seen as either one of two things – deficit and/or romanticised differences.

Deficits are well understood in that what is being implied is that one language is inferior to or less important than another language. Romanticised differences see languages as static or perhaps exotic. Classrooms become places where children belong to either one group or another. Groups other than the majority are tolerated as different as long as they do not challenge the hegemony of the classroom.

Singh talks of a third understanding of difference which she describes as a "critical analysis of the way difference is silenced in classroom practices". It is through this concept of difference that this study takes importance. The ensuing results and recommendations of this study give teachers some practical ways of doing more than celebrating and tolerating difference (in this case different language and literacy practices). Without identifying the features of ASSI students' oral language the differences will not be made explicit and teachers may silence the ASSI language use, reproducing the dominant culture in the classroom.

The Study

The project team realised that in designing the research process it must be remembered that the project was multipurpose and had a number of 'hidden agenda'. It had to provide an opportunity to inform this community that the school was interested in being responsive to the needs of the children/clients, as well as providing a chance for the school personnel to gain the acceptance and support of the ASSI community in the immediate school community. The prospective establishment of supportive networks involving all members of the school community, which in turn would optimise learning outcomes for these South Sea Islander students, was also an important focus.

Data Collection

The project team were eager to design a process using aspects of an ethnographic data collection style in order to be responsive to the values and beliefs of this community, as well as trying to overcome the community's prior negative experiences with some researchers and research projects.

It was important that during the first phase of the research process, data collection methods which were established were useful to teachers in schools, and that some of the proformas, inventories and interview schedules were made available at the end of the project for teachers in other schools to utilise when investigating literacy practices of their specific clientele. The team now acknowledges that the process that was used for this study was successful because of the intimate relationship the project officer had with the community that was being studied, and other research teams would need to take this into account when investigating the literacy practices in/of their specific community.

The following data collection strategies were used:
- literature review
- semi structured interviews
- informal group discussions
- public meetings and information gathering sessions
- questionnaires with sample responses
- classroom observations (non-participant)

In this study a number of broad questions were formulated to guide the observational and data collection processes.

How is literacy defined by :

Academics   Research and collate definitions

Education System   Research and collate references to the development of literacy in documents such as the National Statement, National Profiles and   Queensland Department of Education English Syllabus. National Statements and Profiles have been developed by the Curriculum Corporation in each of the eight Key Learning Areas to provide a broad framework for state syllabus development.

School   Research and collate references to literacy development in the School Development Plan and School English Program.

Teachers   Interviews with teachers of children from ASSI background and the learning support teacher.

Community members and family   Interviews, group discussions, community meetings.

What is the same and what is different?

The project officer analysed the data that were collected by focussing on these broad questions and drew out recurrent patterns. Themes and categories, similarities and differences in data were established. The data were then collated

and reported back to the school community through a formal report as well as an interactive graphic display.

Findings from the Research Study

How is literacy defined by various stakeholders?

A range and variety of definitions written by academics were investigated on the whole literacy was defined as being more than simply reading, writing, speaking and listening. Current debates in this area point towards a notion of multiple literacies (Cope and Kalantzis 1995, Luke 1995, Michaels 1995). Multiple literacies provides a way of including the new dimensions of meaning and knowledge production that are seen as central to literate activity in the late millennium. In simpler terms multiple literacies is about valuing and celebrating a multitude of literacies and rejecting the belief that being literate is a simple one dimensional notion.

On the whole system documents suggest the importance of aspects of social context, however highlighting the various modes with special emphasis on writing and reading. For example:

> Literacy is the ability to read and use written information and to write appropriately in a range of contexts. It also involves the integration of speaking, listening and critical thinking with reading and writing. (and includes the cultural knowledge which enables a speaker, writer or reader to recognise and use language appropriate to different social situations. (Curriculum Corporation, 1994:3)

To a large extent the school (through its School Based English Program) focus has maintained the importance of the modes of speaking, reading and writing in its approach to literacy development.

The teachers offered a wealth of information regarding their view on literacy. These views were of a diverse nature but on the whole focused mainly on a formal or 'traditional sense' of literacy.

> *There is a variety of different languages and being literate: computer, social literacy, tax literate, specialist fields, skills awareness of practices, ability to use those practices.*

> *Literacy is speaking, listening, writing, reading. Someone who can communicate effectively is thought to be literate.*

> *An important part of being literate is being able to make explicit the processes that are used.*

It would seem that part of all literacy is the knowledge of English.

Visual literacy is important.

Values are placed on different types of literacy, for instance in a school environment, English literacy is highly valued, for understandable reasons.

A variety of literacies is required, however some are more important.

Literacy is based on people's ability to communicate information.

The culture of school limits the variety of literacies, also they are value laden.

Community members

Families and community members gave similar data to the school data in that they highlighted being literate as reading and writing. They also gave information that correlated with the academic and system definitions about valuing the home language of students, while also understanding that the acquisition of standard Australian English was imperative for these students to 'achieve' in the school setting.

A summary of definitions of literacy from community members is:

Literacy is a cultural aspect, especially the home language, as this enables effective communication with other South Sea Islanders.

Literacy is communication, talking amongst one another, any sort of literacy needs reading. Listening and talking play a major part in literacy.

Listening and looking and talking play a major part on literacy; for instance, watch someone's actions, the body language, the way a person does something or how they look.

Literacy means being able to communicate in 'broken (English)', sometimes that is the best way to understand, even on a formal occasion, like a meeting.

Literacy is the ability to use standard English in formal situations such as letter writing, giving instructions, story telling and exams. Generally, the importance of the acquisition of standard Australian English is to enhance employment opportunities.

Sometimes to use broken English is more effective but on formal occasions South Sea Islanders use spoken standard Australian English.

It is preferred for children to both keep their home language and to learn standard Australian English.

Our children need hands on experience, they need to read to know meaning of things, they need to see it in operation, see it modelled, have some practice with lots of examples and also drill for skills.

Some hints for teachers were supplied by these community members. For example:

Language used to indicate appropriate behaviour should be in imperative mood. Teachers should not "waste words" – they should be precise and to the point.

ASSI children should be actively involved in any activities or relationships which assist in confidence building.

The inclusion of narrative genres is important, but only at designated 'story telling time'. The children should be able to write a letter, to communicate, to be able to stand up in front of others and tell a story.

The ASSI community in Mackay perceive that "dark kids are overlooked when a response to the teacher is required in class, the kids are disadvantaged in class - they need more practice at responding so they'll get better and then praised for their efforts."

What do these people want for their children?

To improve our children's chances of jobs, better professions, greater range of professional jobs and careers.

One of the community elders commented that she knows that in the islands the people were being educated to the level of doctors and dentists and teachers, and she noticed that it was not happening here for South Sea Island people in our education system.

Community members want schools to offer:
*   a range of experiences complementing those provided at home, which allow students to develop an appropriate repertoire of responses to participate in society and to fulfil potential as Australians.

*   more culturally appropriate opportunities for parental involvement which foster greater understanding of current pedagogy.

What was the *Same* and what was *Different?*

Through the analysis, a variety of congruencies and incongruencies were evident between the data from the differing sources. The inclusion (and importance) of the modes of reading, writing, viewing and speaking of Standard Australian English was emphasised by all groups as well as the notion that (the dominant form of) literacy is attached to institutionalised power.

The recognition that there are multiple literacies was evident in all groups. The academics, the syllabus documents and the community members especially, were highly aligned in their beliefs about the equal importance of both home and school languages and literacies and the importance of valuing this multiplicity. However, in the main, the teachers did not know how to work with this concept in their school programs or in the classroom settings which led to a sense of frustration on their behalf.

Other Outcomes

As identified earlier in this paper, there were a number of underlying themes that were to a certain extent subordinate to the focus of South Sea Islander students and school literacy. These themes included the notion of teachers as cultural researchers, culturally appropriate ways of collecting data and the importance of community partnerships in developing curriculum. Through the focus on these underlying themes, it can be argued that the school and the teachers involved in this project now have the beginnings of a greater understanding of ASSI notions of literacy at this particular school, and know what follow up work needs to be done. Culturally sensitive methods for collecting and reporting data were explored. In particular, the project team discovered more appropriate ways of reporting to the community and teachers, using an interactive graphic display.

There has been an identification of the desire for the community and the school to continue to work together to improve optimum educational outcomes for South Sea Islander children. This project provided these groups with an initial opportunity (for a number of teachers and families) to engage in dialogues regarding views on literacy and outcomes for students.

Implications

Generally the implications of this study focus on three issues: consultation with community groups, teacher education and the importance of (re)focussing on definitions of literacy.

When planning to incorporate information from or about minority cultures into formal teaching programs it is clear that principals and teachers must consult members of the groups concerned, both on the staff and in the local community. This consultation needs to be conducted in culturally appropriate ways which will vary from community to community. It is clearly important to listen to people who live the culture and to treat them with respect as the real experts, rather then rely on stereotypical assumptions.

Pre-service and in-service teacher education needs to address the issue of understanding that Australian South Sea Islanders are a discrete community in Queensland, that this group has a detailed history and cultural knowledge and

that the literacy needs of this group are tied up with issues of identity, home language and wider social aspiration (Cox, Ramsden and Webb 1995 cited in Lo Bianco 1997). Furthermore teacher education needs to focus on issues of community consultation.

Some teachers and schools need to (re)focus and expand their notion of a single (dominate form of) literacy to incorporate a view of multiple literacies, which work towards addressing notions of difference, deficit and diversity.

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When the Gown Came to Town: The First Ten Years of the University in Mackay

Clive Booth

In common with a number of other regional centres in Australia, the city of Mackay successfully negotiated for the establishment, and subsequent expansion of, a university for its residents. It has been argued that a strong motivation for regional centres to press for local university provision is the attitude that a community is not fully developed until it has a university. This paper will attempt to ascertain whether such was the case in the city of Mackay. Further, the paper will, by reviewing the development of the University in Mackay during its first ten years, consider the impact of the University on the local community.

It was not so very long ago that those living in the rural and regional parts of Australia had two choices, but more often only one, when it came to undertaking studies at the university level. One option was to choose a program from the limited number of external courses that were on offer. For many, the only other option was to travel to the capital cities, and later to a few of the larger regional centres to begin their studies. For most, however, neither of these options was realistic - the dream of going to university remained just that, a dream.

It has been noted elsewhere (Davidson, Dekkers & Booth 1994 p1) that it is extremely difficult to document the processes at work in communities as they strive towards the establishment of their own local higher education facility. It is acknowledged that there are specific economic and social advantages in educating higher education students locally. However, while such advantages are recognized by education planners, it is argued that those communities which are successful in their endeavours to establish a university campus have utilised political or broader socio-political means to convince our decision makers (Davidson, Dekkers & Booth 1994 p1).

While Mackay had a study centre for external students for many years, its role was limited. With the establishment, in the mid to late 1960s, of what was to become James Cook University and Central Queensland University, in Townsville and Rockhampton respectively, Mackay was overlooked as a site for a higher education facility. In hindsight, this was hardly the fault of the education planners of the time. The two centres to the north and south of Mackay were both

significantly larger and no one could have predicted the population growth that would occur in Mackay in the 1970's with the sustained growth in the sugar and tourism industries but more significantly, the development of the Bowen basin coal reserves.

It was not until the 1980's that the establishment of a higher education facility in Mackay looked like becoming a reality. In 1986 the then Commonwealth Tertiary Education Commission (CTEC) visited Mackay to ascertain the desirability or otherwise of the local presence of a higher education facility. It should be noted that at this time, the local economy was buoyant and the mood of the community was confident. The coal export industry was expanding - plans for a major entertainment centre for the city were being developed. The Mackay City Council led by its Mayor, Sir Albert Abbott, presented its case to CTEC. The Council stressed not only social and economic advantages for the students, but also the advantages associated with decentralisation and regionalisation. It argued that Mackay was indeed a significant regional centre of 60 000 and was of the maturity needed to have a university. The Council must have been effective in presenting its case because CTEC subsequently recommended that the Capricornia Institute of Advanced Education offer its programs in Mackay.

While it could be expected that the announcement of the establishment of a higher education facility for the city would be greeted with almost universal approval, such was not the case. There were three main reasons for this relative lack of enthusiasm. Firstly, the citizens wanted a *university* presence; instead it was getting an *Institute of Advanced Education* whatever that was. Secondly, many in Mackay saw the city as part of North Queensland and therefore logically it should be in the territory of the James Cook University of North Queensland and not something coming out of Rockhampton, *Central* Queensland. Thirdly, it was going to be housed in the *TAFE* College. Not that this decision was greeted with much enthusiasm by some staff members of the Institute in Rockhampton. Some academics saw such a move, with others surely to follow, as a drain on already scarce resources and limited funds. Others saw a likely erosion of their power base.

While it is generally accepted now that CQU is the major provider of higher education in the Mackay region this was not always the case. James Cook University, as could be expected, was miffed by not having Mackay included in its lot. However this did not deter James Cook University. Newspaper reports in 1987 state that:

James Cook University is planning to establish a Mackay university campus for full time students in the 1988 academic year. (Daily Mercury 9.3.87)

James Cook University has also been active in its endeavours to establish a maritime college in Mackay as the following newspaper report indicates:

Mackay could have a maritime college by next year. James Cook University spokesman said it would be known as the Pacific Maritime College. (Daily Mercury 22.10.92)

James Cook University still has a presence in Mackay, but Mackay was soon to have the presence of a third university in its midst.

A branch of the Queensland Conservatorium of Music had been established in Mackay in 1989. In the mergers and amalgamations that occurred in the early 1990's, the Conservatorium became part of Griffith University. Community support for the Conservatorium in Mackay has been an integral part of its continued presence in Mackay. This community support became even more important when it became apparent that closure of the Conservatorium was a very real option being considered by Griffith.

So it was, that in the early to mid 1990's, Mackay had three universities operating in its midst, each competing for its share of community support be it financial, physical or otherwise. As we now know the Conservatorium is part of CQU but James Cook University still maintains a separate presence. As the newspaper of the day indicates, it was almost a case of musical chairs. Refer Appendix A.

It would seem a case of feast or famine going from not having any university presence in 1986 to having three separate facilities less than 10 years later. It could be argued then that Mackay had well and truly fully developed as a community – not many cities of 65 000 have campuses of three universities in its midst.

In its fledgling days Capricornia Institute in Mackay, as it was then known, had a real identity problem. As noted above it was initially housed in the TAFE College. Many in the community naturally assumed it was part of the TAFE - not necessarily a positive or glamorous attribute. It also had an almost unpronounceable name – Capricornia Institute of Advanced Education – what was an Institute of Advanced Education anyhow? Who wanted to know?

The Institute's first major impact on the city could be seen as being a negative one. As has been mentioned, the Institute was housed at the TAFE College but this was seen as being less than desirable. It was, however, part of DEET's plan for the two sectors of tertiary education to work together to share staff and facilities. The practicalities of this were sometimes awkward. So it was resolved that the Institute should find alternate accommodation.

It became known that Central School was being considered as a possible alternate location – the catch was the school would continue much as normal with the Institute students occupying one wing. The reaction was predictable with the public being reminded of some of the stereotypes of university students.

Refer Appendix B. Parents expressed fears about the introduction of drugs into the school yard and there was the increased risk of 'stranger danger'. How strange were these alien creatures called university students? I suggest no stranger than some of the spelling in the newspaper headlines of the time. Refer Appendix C

As we now know the use of a lovely old primary school building as a university campus never became a reality, however the furore that the possibility of such a move created resulted in two things. Firstly, a lot more people knew that Mackay had a tertiary education facility – Capricornia Institute had made an impact. Secondly, it helped in no small way to pave the way for the establishment of a separate campus for what was to become CQU in Mackay.

Mackay as a community has always had to strive hard for what it has got. The larger centres of Townsville and Rockhampton have traditionally been the regional offices for government departments and major firms. Mackay has been the branch or district office with staff more often than not under the direction of more senior staff located in the cities to the north and south. I believe this inadvertently developed a strong spirit of determination to achieve despite what could be described as a condescending attitude by our seemingly bigger regional neighbours. So it is that when the local community decides to get behind and support a local product, in this case a university campus, it does so with gusto and pride.

It is fair to say that without the community support that the university in Mackay has enjoyed, the buildings we now stand in would not be here. It was recognized quite early that if the university was to receive support from the community it would need to give something in return, something more than provide a place where some teaching occurred. As I recall the first of these offerings was a series of free public lectures. Refer Appendix D. *Byzantium: Orthodoxy and Heresy* was given by the then Mr Martin Hislop. Others followed. Some even more esoteric, for example *Clinical Aspects of CCF, COAD, Diabetes and Cancer* held on 14 May 1994.

Perhaps somewhat more convivial were the book launches usually featuring Professor David Myers. The first of these coincided with the inaugural Mackay Festival of Arts when the then Dr David Myers had to launch his own book, *Bleeding Battlers from Iron Bark*. Other book launches followed at regular intervals, some of these books, dare I say were better than others. Refer Appendix E. These book launches have become something of a tradition in Mackay. Thankfully David no longer has to launch his own books.

Also on a somewhat lighter and more entertaining note are the Great Festival Debates; who could forget the performance of my esteemed colleague in the rather memorable 1993 debate. The newspaper reports of the day, describe the

disrobed Associate Professor Helen Lancaster as a 'sad, fallen woman', that is after she had, removed her 'funny hat, her funnier gown and fur edged bit .....' *(Daily Mercury 23.7.93)*

More serious contributions to the community include the wonderful British Council exhibitions, the formation of a local branch of the Australian Institute for International Affairs, and the annual ecumenical church services to mark the commencement of the academic year. However I most firmly believe the most significant offering to the Mackay community each year is the Ansett Australia/ CQU Winter Lecture Series. Since its inception in 1992 a succession of highly regarded speakers have come to Mackay. Through the lecture series the people of Mackay have had the opportunity to listen to speakers of the calibre of Sir James Killen, Quentin Bryce, Buzz Kennedy, Mungo MacCallum, Dame Leonie Kramer and Jocelyn Scutt.

All of these various activities have had some impact on the people of Mackay – some have had a greater impact than others. Perhaps it is easy to overlook the most important impact on the Mackay community – that being the local availability of a university education. Entry remained difficult for many as these two cartoons depict. Refer Appendices F and G. With the increased number of places now available, access to the university is now a reality for the overwhelming majority of applicants. It is also pleasing to see that students can complete full degrees in Mackay. It is interesting to see this was first announced in April 1987 by the then Minister for Education in Queensland, Lin Powell, when he stated Mackay students would be able to complete bachelor degrees in applied science and business without leaving town *(Daily Mercury 3.4.87)*. One must feel somewhat bemused when this very issue caused so much controversy a number of years later. The pleasing aspect, however, is that it is now a reality.

In its ten years the university has made its contribution towards Mackay becoming a more culturally diverse and vibrant community. I feel privileged to have been involved in this process. The university is now an integral part of the community that it serves and provided the university never overlooks this vital point, its continued development is assured.
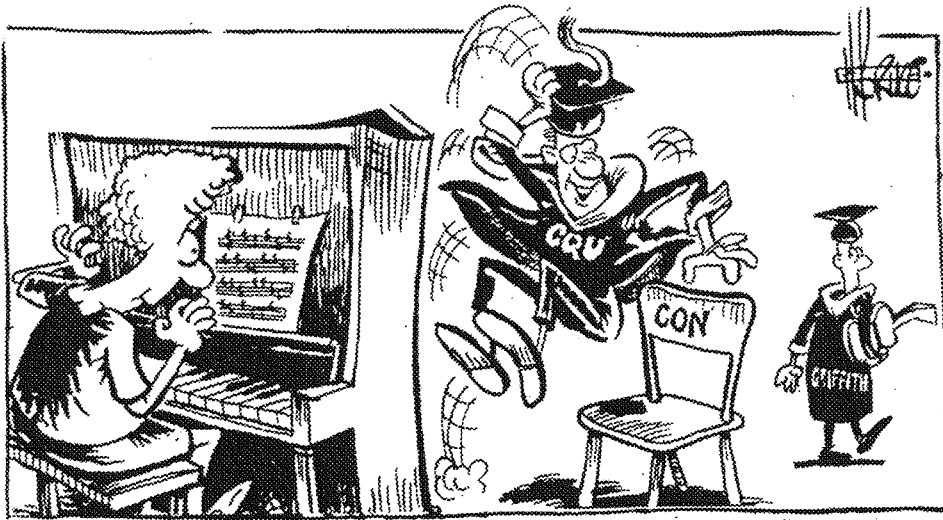
The gown has well and truly come to town.

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Acknowledgements

Appendix A

MUSICAL CHAIRS

Daily Mercury 31.8.94

Appendix B

CIAE-CENTRAL SCHOOL DEBATE:

Drug fears expressed at meeting

PARENTS of pupils attending the Central State School in Alfred Street yesterday voiced their opposition to plans for Capricornia Institute of Advanced Education students to use some of its classrooms.

Fears of the possible introduction of drugs into the school yard and an increased risk of "stranger danger" were among issues raised in a sometimes heated meeting called by the school's Parents and Citizens' Association.

However, CIAE Mackay advisory committee chairman Mr John Tait said later he was confident that the presence of tertiary students would in no way affect the primary school pupils.

He said the CIAE had about 140 students undertaking first year courses at the TAFE college, but

was seeking more teaching space until campus buildings could be built at Planlands, south of Mackay.

P and C Association president Ms Annette McDonald estimated about 90 people attended the meeting at which the regional director of education Mr Steve Miller, Mackay district schools inspector Mr Ian Bonney and Central School principal Mr Don Graham were present.

Ms McDonald said the P and C was distributing a voting form by which interested parents and citizens would have the opportunity to vote for or against the proposal to allow the CIAE to use the school.

She said the vote would be finalised at the association's monthly meeting on Monday night.

She and other P and C executive members — treasurer Mrs Marilyn Lewis and secretary Mr Bruce Men-

ties — said they were not opposed to the CIAE's presence in Mackay, nor did they believe that the institute's students were of bad character.

"We want the CIAE to have a college here in the Mackay district but not at Mackay Central," Ms McDonald said.

Mr Miller said after the meeting that whether or not CIAE students would be allowed to use the school in 1990 was up to the school's P and C.

He said during the meeting that the State Education Minister Mr Brian Littleproud had issued a statement saying that the CIAE would not be allowed to use the school until 1990, and the use would only be allowed until a campus was established at Planlands.

Mr Miller appealed for the P and C to make a responsible decision on whether or not to allow the CIAE use of the school, based on all the information available.

His appeal was echoed by Mr Tait and by the chairman of a CIAE accommodation sub-committee, Sir Albert Abbott.

Mr Miller met with Sir Albert yesterday to discuss the CIAE's accommodation problems.

Sir Albert said the CIAE would only have enough money to build facilities at Planlands in 1990 for half its expected Mackay enrolment.

"I considered that it would be desirable if they could use extra school facilities in Mackay and build the Planlands campus in 1991 in

Parents vote to oppose tertiery move

As the campaign hots up to prevent students of Mackay's Capricornia Institute of Advanced Education from using rooms at the Central State Primary School, a fresh appeal has been made to parents to allow the move to go ahead.

A protest meeting of parents and members of the public on Tuesday voted over-whelmingly against the scheme which it was announced last week would start after Easter but is now scheduled to go ahead next year.

Member for Mackay Ed Casey has backed the parents cause and said that there was lots of rented accomodation available to the C.I.A.E. in Mackay until it builds its own campus.

"There are plenty of places around the city that can be rented as temporary accomodation. The students from pre-school to grade seven at Central School should not have to suffer because of the failure of those planning for tertiary education in the area to properly provide for forward intakes," he said.

Broader Issues

However, C.I.A.E. advisory committee chairman John Tait has urged parents to consider the "broader" issues at stake.

"It is extremely valuable to Mackay to have a higher-education college here. Within the next decade some of the children at the Central School may even be availing of our education facilities."

"We will not disrupt the school children at all and will meet all the requirements laid down by the school. All we are asking for is some space for next year until we build our own campus."

"I am hopeful that when parents see the wider issues involved and the impact on higher-education in Mackay if they refuse us the use of the classrooms, they will change their mind," he suggested.

Opposed

However, Parents and Citizens Association president Annette McDonald, who has three children at the Alfred Street school, told the Pioneer News that parents were vehemently opposed to the move which would involved over 100 tertiary students using two upstairs classrooms, currently used by Year 6 and 7.

Their biggest fear was the Institute students mixing with the primary school kids.

"Young adults and five-year-olds do not mix. Young children are very impressionable and they would probably hear things we don't want them to hear," she explained.

She also expressed particular concern about the sharing of toilet facilities, and said that handing over two classrooms would be a big loss. Facilities would be very cramped, she predicted.

Discipline

School principal Don Graham voiced his worries and said that he would have to re-organise classes and classrooms if the scheme went ahead.

He was also concerned about the question of discipline, he said.

Mr. Graham said the idea of mixing a primary school and tertiary college was to his knowledge unprecedented, and "would cause a lot of problems."

At Tuesday's meeting attended by up to 90, only two people voted in favour of the move.

Students

Among the attendance were four Capricornia students who themselves expressed opposition to the plan as they said they feared disruption to their studies by the primary school students.

The meeting was also told that a random survey of local residents by parents showed all were against the plan. Many were elderly and feared the presence of young adults around the school, it was stated.

Meanwhile Mr. Tait is seeking a meeting with the Parents and Citizens Association to thrash out the issues involved.

"I will assure them that we will not disrupt the school. Our students will just be coming for lectures and will not be hanging around. Also many of the lectures will be outside school hours," he said.

C.I.A.E. is currently housed in T.A.F.E. but because of increased student numbers it will need extra space next year. It could not afford to build its own campus at Planlands until 1991, so the real problem was next year, Mr. Tait explained.

"If we don't get space at Central School I don't know what we will do. We have no other options open to us at present. Whatever happens we will fight like mad to make sure the campus isn't closed down," he pledged.

The next move by parents is a meeting of the P and C Association on Monday night to ratify a proposal to send a letter to State Education Minister Mr. Brian Littleproud outlining their objections to the move.

"We plan to tell Mr. Littleproud that we don't want the Institute at the school this year or next year or ever," Mrs. McDonald concluded.

Mr. Littleproud has already assured parents that the C.I.A.E. would not start using the school until 1990 and that it would be on a temporary basis only.

Appendix D

University College of Central Queensland in Mackay

Byzantium

A FREE PUBLIC LECTURE

The second free public lecture in a series on Byzantium will be delivered by Mr. Martin Hislop on *Tuesday March 6, 1990* at *6pm* in the *Mackay City Library*.

Byzantium: Orthodoxy and Heresy
is
presented by the University College of Central Queensland in association with the Arts Council of Queensland (Mackay Branch) and the Mackay City Library.

For further information please telephone Mr. Hislop on 511 711.

Daily Mercury 3.3.90

Appendix E

Campus head joins in book

HEAD of University of Central Queensland Mackay Campus Mr Clive Booth has joined the Governor General Mr Bill Hayden and other prominent Australians in a new book on literacy in Australia.

Mr Hayden wrote the foreword to *The Great Literacy Debate: English in contemporary Australia*, which redefines literacy to include Aboriginal literacy and multi-cultural literacy in contemporary Australia as a vital part of the attempt to construct a national identity.

Mr Booth contributed a chapter on "Developing Literacy or Babysitting the Unemployed?" which investigates developing literacy in our schools and tertiary institutions. Other contributors to the book include Dame Leonie Kramer, Robyn Williams, Thomas Shapcott, Buzz Kennedy and Jill Ritson.

Daily Mercury 31.8.94

The book referred to is:

David Myers (Editor), *The Great Literacy Debate*, Australian Scholarly Publishing, Melbourne, 1992.

Appendix F
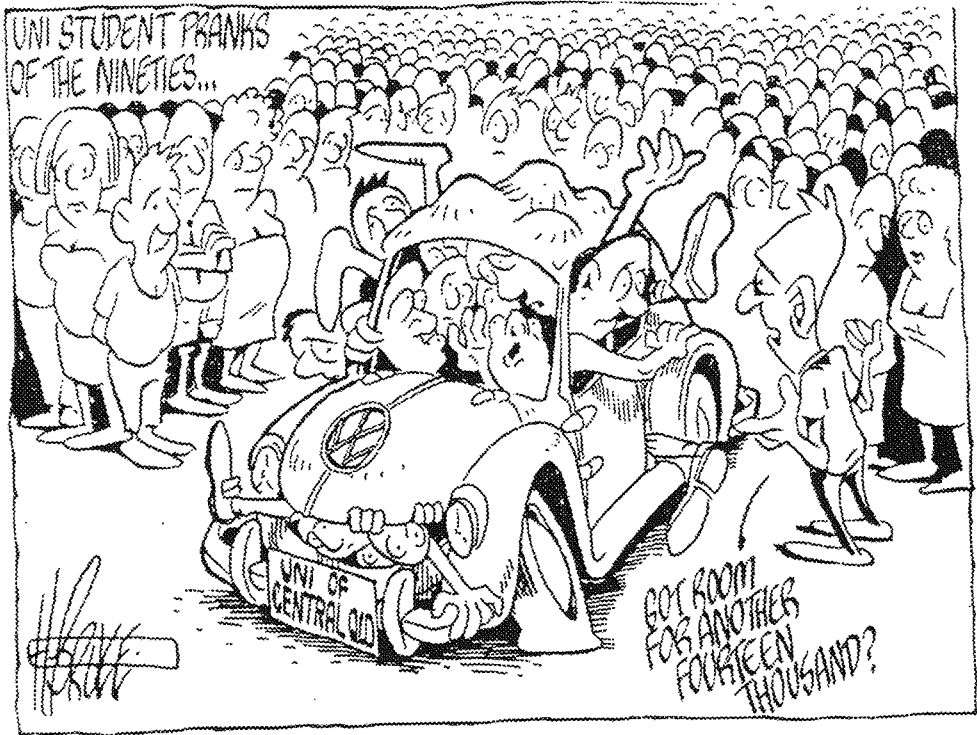
Daily Mercury 8.1.92

Appendix G

Daily Mercury 6.2.92

Do Tertiary Education Entrance Rankings Matter?

Joe Hallein, Judith Phillips, Shannon Pearce

Introduction

Some members of the Advisory Committee of the Mackay Campus of Central Queensland University expressed concern over the University's policy of admitting students with low Overall Position (the Queensland Tertiary Education Ranking System) scores.

The authors agreed to try to determine if there was a relationship between OP scores and the chances of a student successfully completing first year university study. Students in nine degree courses who were admitted directly from secondary school based on an OP score were included in the study. The study only looked at students enrolled on the Bundaberg, Emerald, Gladstone and Mackay campuses of Central Queensland University. In addition to comparing OP scores with the student's grade average at the end of the first year of study, the authors also conducted a literature review on the relationship of Tertiary Entrance Rankings and success in University.

In reviewing the literature on the correlation of Tertiary Entrance Rankings to successful completion of first year university studies, we found it is difficult to obtain a national picture as there are many variables to take into account. Firstly each state has differing sets of criteria for the final year of schooling – Queensland students are even a year younger than their counterparts in other states for example. Secondly states have altered the criteria for Tertiary Entrance Rankings over the past decade, for example *The Review of Tertiary Entrance in Queensland* 1990. Thirdly during that decade Higher Education has changed from a binary system where universities catered for the elite and "the others" found places at the various Colleges of Advanced Education to one of mass university education. As a result of Government initiatives more students are completing secondary schooling and hence providing a far greater demand for a tertiary place which has been met to some degree by a dramatic increase in Government funded places over the last decade.

Tertiary Entrance Rankings (TER) are being used as a selection tool and as a prediction of academic success, the rationale being that this is fair for all

students. The literature illustrates that as presently administered they are not equitable and as predictions of success quite unreliable. In fact as Moodie (1997) points out in his article "Aptitude True Mark of Success", university entrance scores are "too often manipulated and misused". He points out that students do not always get their first choice of course or even the university of their choice. Cut-off scores for individual courses are often used as a surrogate measure of student demand. He also suggests "that they are not even a good indicator of the scholastic achievement of applicants admitted on the basis of Year 12 results".

This statement is affirmed by reviewing the research literature for the past decade on the correlation of TER scores and first year pass rates. This correlation is shown to be highly variable and extremely ambiguous, depending on many factors, including choice of course, prior knowledge in subjects chosen to study, maturity of student, motivation to succeed and adaptability to new learning processes. These factors ensure that predicting success based solely on secondary school assessment leading to a TER score is highly unreliable for practically all students entering first year tertiary education from secondary schooling. This surprisingly tenuous correlation between school performance in final year and first year university success is even evident in those students with the highest TER scores. Daveniza (1986) in a research study of Engineering students at the University of Queensland who all had TER scores of between 950 and 999 (which were high scores) found that "those with the highest TER scores generally perform well at University". This qualified conclusion even for those with the highest TER scores was modified further as the research results revealed that the TER score is "a relatively poor predictor of university performance below the highest TER score levels".

Many research studies have found very similar results (Sadler 1986, Power, 1987, Dunn et al. 1982) in that high TER scores are "reasonable predictors of success" in specific circumstances. In predicting success TER scores are more accurate for students studying science and mathematical based courses than humanities or education. Everett and Robins' (1991) research results also confirm this finding – the TER aggregate score was a better prediction for students doing science based degrees than for students undertaking humanities. Dancer and Doran (1990, p4) suggest the reason for this is that students who have prior knowledge, in particularly Mathematics, will succeed. Their research study illustrates that there is a "clear differentiation between students who have at least two units Mathematics and those who do not".

Everett (1991) points out that his research indicated "that women do consistently better than men" except at the very highest TER levels and that "*all* humanities students do consistently better than science students".(p 31) This finding is consistent with that of Dunn (1982) in his Melbourne University Study that the HSC score (as the final year examination on which selection for University was

based in 1982) was a "better predictor of first year performance for males in Science and for females in Arts".

The research by Everett and Robins (1991) studied 1695 full time students entering first year of the University of Western Australia in 1987. The authors' conclusion was that under the existing system of selection in Western Australia science students with a low Tertiary Entrance Score of 325 would have only a 20% probability of passing all four units in Science, Agriculture and Engineering while Humanities students with the same low TER score would have a probability rating of 50% of passing all of their four units. These results suggest – they argue, that performance in Humanities degrees is intrinsically less predictable than performance in Science-based degrees, perhaps because "performance in Humanities is less dependent on prior knowledge and/or innate ability." (p 33) In a UNE research study conducted by Walmsley (1990, p244) on "How well do HSC scaled aggregate scores predict university performance in geography," he states unambiguously "that HSC performance is a relatively poor prediction of university performance" in the field of geography. Walmsley only used aggregate scores so he was unable to specify if a prior knowledge of geography "had any impact on how that student performs in university geography courses".

One of the many problems with TER scores is the reliance placed on them by universities given the tenuous relationship between these scores and first year success rates as indicated in the research literature. Unfortunately in some universities where Science quotas are being filled by students with minimum prior knowledge in Mathematics or Physics it would seem that, on the evidence of the research literature, students are being admitted who are doomed to fail! (as the research by Dancer and Doran 1988 illustrated).

Catherine Armitage (*Australian* January 18, 1997) quotes former Australian National University Vice-Chancellor Peter Karmel who believes that by admitting students with low TER scores in the bottom 40% to fill quotas you "raise the very good question of whether they are tempting students who are not properly prepared for university work". Professor Lauchlan Chipman of Central Queensland University acknowledges, in the same article, that his university "had a lot of people of ambiguous ability, so that staff really have a very difficult task".

Yet as Daveniza's research shows it is not certain that all students with the highest ranking tertiary entrance scores will succeed at university nor that those students who have only average tertiary entrance scores will fail, particularly if, as has been shown, they study humanities, or education or are females. One other consideration of course, which is outside this study, is that "half of all new undergraduates in Australian universities are mature age students and others who qualify by means other than Tertiary Education Ranking." (as reported in McGraw Report into NSW Higher School Certificate, 1997)

Gavin Moodie points out that an inherent danger in the reliance on TER scores for student places, is that they are used by commentators as a "surrogate measure of student demand", which sets a competitive goal for schools and universities alike. Moodie argues that students should be admitted to a course, who have an interest in that course and an aptitude to succeed.

Sadler (1986) concurs, but his research also indicated that many school leavers were not making well-informed or appropriate choices and that they do not have an assumed background knowledge of the skills required by the courses they select. There needs to be more emphasis on the transition of students from secondary to tertiary studies. Power, (1987, p. 10) also highlights the fact "that school performance becomes increasingly less valid as a predictor of first year success, and hence as a means of selection, as the years go by".

The pressure put on students, by schools and parents, to succeed in final year in order to gain a high TER score is also coming under increasing scrutiny. In a submission to the Victorian Government's enquiry on teenage suicide one Principal of a secondary school was particularly critical of the inflexibility of the TER system, where one mark can determine a student's future. (*Australian*, June 7/8, 1997).

In the study by McInnes (1995) 1st year students when questioned on links between school and university, only 36% of them agreed that "final school year was a good preparation for the university study they were doing" and 64% of them agreed that "studying at university is more demanding" than at school. It would seem then that Moodie is correct in highlighting the importance of attitude and motivation rather than an arbitrary TER score.

McInnes (p.1) summed up his findings that for 1st year students there is "a gulf between an understanding of what university education is about and what is required for success. School-leavers it would seem are less certain of their roles, less diligent in their study habits and less academically orientated". In a climate of government initiatives favouring mass tertiary education these particular transition problems need to be faced particularly "when the government provides a negotiated number of places to Universities which they attempt to fill by manipulating their entry requirements (Armitage *Australian* June 11, 1997).

The entire TER system is criticized by Scott (1997, p.17) in his article "Australia Pays the Price for Tertiary Muddle". He states categorically that "the present Australian system is not equitable in that it rests on the dubious presumption that the TER score is a reliable prediction of academic performance at university". He is also critical of "the insidiousness of totally arbitrary quotas in each course which can result in students being coerced into degree courses for which they may not have any inclination".

Setting quotas for courses from Canberra to achieve some perceived national educational goals, which can and do change, is completely unjustified and in Scott's view "quite stupid". He advocated selection by supply and demand; following more closely the American model. This may help solve the problem outlined by Maslen (1997, p 32) where he accuses the universities of "spending vast sums on training young Australians for jobs that do not exist". He specifically cites Law Faculties where enrolments have jumped to 25,000 in a field which is already over-supplied and asks "is this a good use of scarce resources"? As law and medicine are both seen as prestige courses, they tend to attract those students who will match a high TER score with the course, the prestige reflecting on family and school. These, our most brilliant students may only be choosing the course for its status.

QTAC research undertaken by McLelland (1993) justifies the aggregate system in that the research found a reasonable correlation between TER scores and first year tertiary studies in that "the performance of those with higher ranges of allocated ranks was better than those with lower ranks" but she is adamant in her finding "that a rational fair selection process should not be driven by a perceived goal of high correlation with tertiary performance".

Don Anderson quoted by Armitage (*Australian* February 17, 1997) in her article "The Great Dilemma" says that unfortunately TERs are set "solely according to the supply of university places, with no reference whatsoever to a student's likely ability to succeed at university".

As the literature has highlighted TER scores are most unreliable in the prediction of all humanities and education subjects. TER scores are also highly unreliable as predictors of female academic success in first year. Females tend to out perform males in all areas in first year and this is evident for all females who have been admitted to a university course. (Power 1987) Power admits that this gender bias is mainly unexplained from his data but in the latest study from the AVCC this finding is again affirmed "female undergraduates outperform men". ("Pass Rates suffer as students increase" *Australian* July 1, 1997)

If we agree with Moodie (1997) that TER scores and in particular cut-off scores for individual courses are not "a good indicator of an applicant's scholastic achievement admitted on the basis of final year results" and that the correlation between such selection and 1st year success rates is tenuous, then we must agree with Elliott, et al. (1986) that selection on this basis by universities could be seen "as reflecting a preference for administrative convenience over educational purpose".(p 87)

Higher Education has changed in Australia from an elite to a mass education system in little over a decade. Rosenman (1961 p1) comments that "higher education became an alternative to labour market entry and probable

unemployment for school leavers". And hence the problem has arisen of students who would not have chosen tertiary education or who would not have achieved the required academic standard, being coerced into university courses, for which they have little inclination, by universities competing to fill government funded places ie "where the government allocates a negotiated number of places to universities which they attempt to fill by manipulating their entry requirements." (*Australian* February 7, 1997)

School-leavers in this climate are often ill-prepared and insufficiently mature to make appropriate course and career choices. According to Rosenman (p. 52) "the desired goal of tertiary education to produce graduates who possess core skills for employment, intellectual skills and understandings which will enable them to contribute to society and their own life-long learning is not being fully met by current transition strategies between school and university". A tertiary entrance ranking does not necessarily measure these qualities or those most highly desired by higher education that is "mental flexibility, creativity, originality and higher order thinking skills".(Reid 1996, p. 13) The students' maturity and ability to adapt to the new learning processes required by higher education will determine their future success.

If students in that lower 50% of TER ranking are admitted to University courses, it is evident from the literature reviewed that they should be admitted only to courses for which they feel they have the greatest aptitude and an individual motivation to succeed. They should not be drafted into courses for which they show little aptitude or interest simply to meet some externally contrived student number or national political goal. As previously stated a very real problem is that many school-leavers do not have an adequate knowledge of what is actually taught at university nor any idea of course content, this is particularly pertinent for very specialized courses or courses in obscure fields from those generally advertised.

Results Of The Study

The authors looked at the relationship between OP Scores the overall position score which is the Queensland Tertiary Entrance Score, 1 is the highest and 25 is the lowest and first year results for students admitted to the Central Queensland University campuses at Mackay, Bundaberg, Emerald and Gladstone. The Central Queensland Conservatorium was omitted from the study because they rely on individual auditions for selection rather than the use of OP scores. However Conservatorium students had the highest grade point average (2.29) of all the campus students. The relationship between OP scores and grades[1] for the individual campuses was:

A: <u>INDIVIDUAL CAMPUSES</u>

Bundaberg average overall OP Score	13.95
Bundaberg average overall grade point average	1.79
Emerald average overall OP Score	13.05
Emerald average overall grade point average	1.84
Gladstone average overall OP Score	12.76
Gladstone average overall grade point average	2.01
Mackay average overall OP Score	12.64
Mackay average overall grade point average	2.03

The OP Scores and the Grade Point averages were similar between the campuses with Mackay having both the best OP Scores and Grade Point averages and Bundaberg the lowest OP Scores and Grade Point averages.

There was much less of a correlation between OP Scores and grades in some degree courses. The Bachelor of Engineering (co-op) an 'elite' CQU degree, had the highest OP scores and had second highest grade averages. The BEd (Primary) had the lowest average OP score but had the third highest grade average.

The courses and their average OP scores and grade averages were as follows:

Bachelor of Engineering CO-OP
      Average OP score   5.16
      Grade point average   2.92
Bachelor of Mathematical Science
      Average OP score   7.52
      Grade point average   2.23
Bachelor of Engineering
      Average OP score   12.10
      Grade point average   1.79
Bachelor of Applied Science (Biology)
      Average OP score   12.25
      Grade point average   1.37

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1.   1. Numbers were assigned to each grade:
        0 = withdrawn, 1 = fail, 2 = pass, 3 = credit, 4 = distinction,
        5 = high distinction.

Bachelor Arts/Bachelor Business
      Average OP score   12.90
      Grade point average   1.95

Bachelor of Arts
      Average OP score   13.58
      Grade point average   1.70

Bachelor of Business
      Average OP score   13.71
      Grade point average   2.20

Bachelor of Information Technology
      Average OP score   14.21
      Grade point average   1.24

Bachelor of Education (Primary)
      Average OP score   14.25
      Grade point average   2.37

Analysis of Results

It is very clear that there is a positive relationship between OP scores and academic success in the first year in Science based courses. But the results in Education and Business indicate a much weaker relationship. At the lowest end of the scale score students with OPs of 19 and below passed in Arts, Education and Business but in the Bachelor of Information Technology students with OPs of below 16 seemed doomed to failure.

At the very highest and lowest end of the OP scores there is a relationship between success in first year and scores but not really in the mid ranges except in some science courses. But OP scores in Arts, Business and Education are not good predictors of all low OP students so aptitude, and determination must also play a part.

In the Bachelor of Information Technology there were a significant number of failures throughout the entire range of OPs until a range above OP 7 was reached, of the 16 students with OPs of 16 or below only 3 passed and no one below OP 18 passed.

In the Bachelor of Applied Science (Biology) 6 students had OPs of below 16 and only one of these passed.

In the Bachelor of Business 32 students with OPs of 16 or less were enrolled in the degree and 9 of theses students passed but no one with an OP of 21 passed.

In the Bachelor of Arts 27 students with an OP of 16 or less were enrolled in the degree and 10 of these students passed. None of the students with an OP of 21 passed.

In the Bachelor of Education (Primary) 22 students with an OP of below 16 were enrolled and 19 of this group passed. It is interesting to note that the group of students that were taught by trained teachers did better than other low OP students. It might be that education faculty numbers, because of a background in schools, are better equipped to meet the educational needs of low OP students and can design programmes that will help these students succeed in University. This could be an argument that university lecturers should have some training in teaching.

Conclusion

With a system of mass higher education, universities will continue to enrol students with low OP scores but they should be counselled to enrol in those areas in which they have a better chance of success. Also the university needs to provide 'bridging' programs to assist students in developing skills and knowledge and university teachers need to be trained to teach students with lower abilities rather than to except a standard of student ability which is higher than is indicated in those who are actually enrolled in the course.

Perhaps we need to develop a more diversified approach to student selection, one that is more than just an OP style score. Scholastic aptitude tests, interviews and letters of recommendations from principals and secondary school teachers plus a resume of the student's activities other than just grades have been found to be useful predictors of possible university success. It is interesting that the campus that does not use OP scores to select students, the Central Queensland Conservatorium of Music, is the one which has the highest grade point average.

With the entrance of Senator Amanda Vanstone (DEETYA) into the debate ("Why TER's reign of terror must be stopped", *Australian*. August 6, 1997) and the consequential reply by a range of academics and the media. ("Must the TER get Vanstoned", *Australian*, August 7, 1997) it would seem the problems outlined in this study will need to be addressed with some urgency.

Central Queensland University could examine the procedures adopted by the University of New England. These procedures have particular relevance to regional students who, historically, have been disadvantaged in the OP rankings. The Deputy-Vice-Chancellor of the University of New England in a letter to *The Australian* (August 11, 1997) outlined the features of "The School's Report Admission Scheme" which this University has successfully implemented since 1973. The success of this scheme is based on "carefully structured reports from school principals". They have found that school principals are able to assess

students' abilities and aptitudes far more accurately than the TER. This type of assessment would certainly be much more equitable for disadvantaged students and for those from small schools in remote areas. It would also mean far greater co-operation between the University and the secondary schools involved which could lead to an easier transition from school to university, an area indicated in the research study, which needs further attention.

Greater co-operation between the education sectors and a greater reliance on other assessments as well as TER, could appease the critics of the universities' reliance on the "devastating deception" of the TER (to quote *Australian* August 8, 1997, Senator Vanstone). For as a University of New South Wales academic, James Scott, has stated "no United States University would use such a frivolous criterion" such as a TER ranking as the sole basis of admission to a tertiary course.

Professor Barry McGraw (*Australian* February 17, 1997), the designer of the overhaul of the New South Wales school certificate, is another who also criticized the widespread use of using TER scores to locate a cut-off for university places, because the measurement has ... "error in it and does not have that degree of precision". He also stated that part of the problem was that "academics just lie on the beach while computers calculate who will go to university and who will not".

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CQU and the Development of Mackay Campus: Recent Contexts, Policies and Management Initiatives

Tony Schirato

This paper takes as its main concern the current management, policy and industrial relations contexts at Central Queensland University, and attempts to relate these contexts to the development of the University's Central Queensland non-Rockhampton campuses (NRCs) – Bundaberg, Gladstone and Mackay. I will open with some generalised observations about the relationship between Rockhampton and the non-Rockhampton campuses of Central Queensland University, and describe and evaluate changes that have occurred, or are planned to be introduced, through 'Vision '97'; the University policy (initially presaged under Professor Wilson, and now apparently to be implemented under Professor Chipman) of allocating all new growth to non-Rockhampton campuses; the recently negotiated enterprise bargaining agreement; and University restructuring.

The current relationship between Rockhampton and the non-Rockhampton campuses of CQU is a highly problematical and an unsatisfactory one. It is problematical for the simple reason that most academic units within the university have failed to articulate a policy or strategic plan that takes account of or incorporates non-Rockhampton campuses. In other words, as far as the Rockhampton-centric academic units are concerned, NRCs have a contingent, rather than integrated, role in their programs and activities.

This is reflected in a number of ways, most obviously in terms of the policies and practices regarding communication between Rockhampton and NRCs. In many cases both academic and general staff working at NRCs have little or no access to departmental and faculty communication networks; for instance, notice about meetings, and accompanying documentation, often arrives too late to allow participation or feedback, and sometimes it doesn't arrive at all. When NRC staff are included in meetings and discussions, it is usually through teleconferencing since there are no policies on resourcing NRC staff travel and accommodation to meetings: usually a highly unsatisfactory option for all concerned. The ISL (Interactive System-wide Learning) option is rarely used.

Similar difficulties confront NRC staff trying to build research profiles, or gain access to staff development programs. Research activity tends to be clustered around research centres or informal research groups based at departmental or faculty level, from which NRC staff are often excluded or marginalised. Much the same is true with regard to accessing research funds, and staff development opportunities that come from working with senior research staff, particularly the professoriate.

Finally, because of the limited offerings available on NRCs, staff are often restricted to teaching in a small number of introductory units which are co-ordinated from Rockhampton. This meant that staff rarely have the opportunity to teach in advanced units, co-ordinate units, or to supervise students at honours or postgraduate level. Given that these activities, along with research, are seen as necessary to promotion and progression applications, staff at NRCs have found themselves considerably disadvantaged, while, as a corollary, the NRCs have found it extremely difficult to attract staff away from Rockhampton.

'Vision '97' was meant to change this situation: the intention was that from 1997 faculties and departments would offer selected advanced level units, along with the current introductory units, so as to enable students to complete their degrees in the internal mode at NRCs. Most of the faculties at CQU committed themselves to offering full degree programs, although in most cases the introduction of new units was to be done gradually, and the availability of units was sometimes predicated on certain levels of student demand being achieved.

Nonetheless 'Vision '97' did make a difference in that students were now able to apply to NRCs knowing they could finish their degree there. There were considerable increases in the number of units and courses available, and in the number of students attracted to and retained by NRCs. For example in 1996, prior to the commencement of the 'Vision '97' program, the Department of Communication and Media Studies provided four introductory units in one degree (the Bachelor of Arts) and had approximately sixty enrolments at Mackay campus. Projected figures for Mackay in 1998 were for the Department to offer or contribute to two full degrees (the Bachelor of Arts and the Bachelor of Communication and Media Studies) through the provision of six introductory and twelve advanced units, and attract enrolments of over three hundred students.

The up-side of 'Vision '97', then, was an increase in offerings which made the NRCs more attractive to students, and therefore far more viable. The down-side was that this increase in offerings was not accompanied by a concomitant increase in staff or other resources. Extra facilities (buildings, communication systems) were provided, but these additions were in no way sufficient to enable the NRCs to cope with projected increases in demand leading up to 2000.

Perhaps the biggest failure of 'Vision '97' was that it in no way seriously changed the Rockhampton-centric culture of CQU. Despite the new offerings and increased number of students, NRCs remained marginalised in terms of staffing, research opportunities and access to communication and decision-making networks. Academic units seemed to commit themselves to 'Vision '97' only as far as they were required; that is to say, their commitment was generally limited to the minimum requirements of the University.

One of the purposes of 'Vision '97' was to change CQU from an institution with one central, dominating campus to a relatively de-centralised, multi-campus operation. While senior management within the University seem committed to this path, management at faculty and departmental level have been resistant. Senior management responded with three initiatives which were designed to overcome this resistance: an allocation of all new growth places to the NRCs; an enterprise bargaining agreement which specifically facilitated the redeployment of staff across campuses; and a policy of centralising control of resource allocations based on, amongst other things, perceived strategic needs. I will discuss each of these in detail.

When CQU first obtained extra growth places in 1995, it was presumed that such growth would, for political reasons, be located at the NRCs. In 1996 DEETYA (Department of Education, Employment, Training and Youth Affairs) allocated CQU a 10% increase in EFTSU (Equivalent Full Time Student Unit) funded places, all of which are apparently to go to NRCs. Moreover, senior management have consistently stressed that any new units and courses should also be located where student growth is – at NRCs.

The enterprise bargaining (EB) agreement that was negotiated between the various unions and University management went some way to addressing the biggest impediment to this move to develop and focus on the NRCs – which was the reluctance of academic units to locate new staff, or relocate current staff, at NRCs. Prior to the EB agreement the University had made no serious attempt to formulate a detailed policy regarding the relocation of staff across campuses.

The EB agreement negotiated in 1997 included a section, headed 'Job Security', which made specific provision for the voluntary redeployment of staff. The document set out a number of stages in this process, which include the University calling for expressions of interest from staff willing to be redeployed, and procedures for selecting staff and ascertaining their suitability for and appropriateness to the new redeployed position. This constituted an opportunity for the University, if it were to make a strategic decisions to redeploy staff to NRCs, to operationalise that decision.

There were, however, a number of aspects to the EB policy on redeployment which meant that it was unlikely to be able to facilitate the redeployment of high

quality or appropriate staff to NRCs, particularly in a short time frame – which was what was now required given the extra student places. For a start the policy did not in any way deprive faculty deans or departmental heads of the right to intervene and prevent staff from redeploying if there was a need for the work area to retain the incumbent or the position. Secondly, while strategic redeployment to NRCs became easier to accomplish, there was no necessary follow through from the University making new or vacant positions available at other campuses, to the filling of those positions. Two questions remained unaddressed: how was management to identify and designate vacant positions that could be made available for redeployment, since this was largely the prerogative of the academic units and their managers, and why would staff be inclined to express interest in those positions if it meant effectively cutting themselves off from the teaching, administrative, managerial and research networks that were so important to their own career progression.

The final stage in the move away from CQU's Rockhampton-centric culture, and an answer to the two questions referred to in the previous paragraph, has probably come about during the process of restructuring the University's academic profile. Management produced a number of documents 'for discussion' pertaining to the restructuring, the most significant of which concerned the proposed establishment of a University 'Planning and Development Committee'. This committee, which was to be composed predominantly of senior management, with only single representatives from the deans and heads of division, would be responsible for strategic planning and development for the University, with specific responsibility for recurrent resource allocation and the mix of courses to be offered by the University. What this meant was that when any position within the University became vacant, faculties or departments would no longer have 'ownership' of the position; rather, the University Planning and Development Committee would invite bids from academic units, and the position would be located in accordance with the needs and strategic priorities of the University. In other words, senior management could effectively decide that all vacant positions had to be located at NRCs, regardless of the arguments put up by academic units. Similarly, academic units that proposing new units and courses could find that only those which were to be predominantly located at the NRCs would be accepted.

Since 'Vision '97' was flagged by the University in 1995, there has been a strong push by senior management to produce policies and management structures that would effectively bring about a more or less 'forced' decentralisation and re-resourcing of CQU; and there is no doubt that if the current restructuring proposals are accepted, academic units will have to start integrating NRCs into their strategic thinking, or run the risk of finding themselves deprived of staff whenever a position falls vacant. At the same time there is a possibility that while restructuring would theoretically allow for a significant ongoing

redeployment of resources, such a move might be held up by a lack of facilities (space and equipment for staff offices, communication equipment and network access, and teaching and research activities). Under the current restructuring proposals University management obviously has the opportunity to radically reallocate resources towards the NRCs; the important question is the extent to which such a redeployment of staff and courses will be accompanied by a concomitant increase in other areas of funding essential to the successful development of those campuses.

The Future for Print and Electronic Media in a Multimedia World

Judith Langridge

As we stand at the threshold of the 21st century and ponder the communication marvels still to come in aiding humankind's endeavours to shrink this world of ours to a virtual global village, it may be valuable to look back to the start of this century when mass communication as we know it today was something not yet dreamed of.

The past 100 years have taken us from the horse and buggy to space travel and from the pony express to virtual reality. Here in Australia at the start of the 20th century we had built the overland telegraph line and linked Australia to the world via Alice Springs and Darwin through the development of morse code. We already had newspapers, of course, but radio, telephone, television and computer networks were still in the future.

Just consider how long it took then for people and information to travel between Europe and Australia ... nine months by sail power (give or take a few days depending on the trade winds) ... with stories printed in newspapers published in England, Europe or the Americas history by the time they reached their destination. People then learned of disasters – and good news – long, long after they had happened.

The 1914-1918 world war brought technological changes and information came to the antipodes more speedily through the telephone and by radio ... physical travelling was faster – courtesy of steam trains and ships and motor vehicles ... and, by the 1930s, air travel – while still a rare and exotic creature – had started to make its presence felt and spanning the globe took days rather than weeks.

The 1939-1945 global conflict brought humankind a step further forward – technologically speaking – and most of the huge leaps in communications infrastructure have advanced from that conflict and from the space race which followed immediately upon that conflict. The first manned space craft was launched in 1957 and I remember standing outside one cold Melbourne night watching Sputnik speed across the sky and telling my new daughter Susan about this marvellous achievement which was to become an intrinsic part of her

future...I could not have dreamed then just how much our communications technology would change in the 40 years to follow that event.

So now before we enter the new millennium, let us ask ourselves what of communications of the future ... and what of the media as we know it today?

In July 1997 an oil spill in Tokyo Harbour is headline news in newspapers and on radio and television stations around the world as it happens. Sitting comfortably in our living rooms we can watch Pathfinder land on Mars ... civil unrest in Cambodia ... or that oil spill in Tokyo Bay. If we like cricket we can watch the Australians playing in the second test at Old Trafford and admire the bowling skills of Shane Warne ... or the tennis competition and the success of the "Woodies" at Wimbledon ... and we can be entertained by the latest shenanigans of Nanny Fine or those living and working at "Pie in the Sky" ... it has all become pretty ho-hum ... and we've come to expect all this to be available at the flick of a switch.

But we do not have to read the daily newspaper, watch the television or listen to the radio to get all this information and much much more. In increasing numbers Australians are downloading huge slabs of information by sitting in front of a computer screen in their own homes ... courtesy of data lines, the Internet and the world-wide web. This computer technology seems to have had an enormous impact on Australian technophiles who use the Internet for a wide variety of purposes. Using chat lines they talk to people they know ... some they don't know ... and they send e-mail messages around the world at the click of a mouse. Children hospitalised for any length of time can continue their schooling through the internet ... students can buy a book, a business can advertise its product ... you can sell your house, do your banking, order a pizza or research a doctoral thesis ... sit down at the computer keyboard and access the news pages of your choice ... *The Australian* on-line, *The Financial Review, The Sydney Morning Herald ... The London Times ... The New York Times ...* the universities of the world ... all are available at your fingertips.

Australians have eagerly embraced the computer technology that has spawned the Internet - and anecdotal evidence suggests that Australia's current Internet population stands at about 2.6 million ... almost double the figure revealed by an August 1995 AGB McNair survey. An article in the computer magazine *Australian Personal Computer* of February 1997 puts the worldwide figure of Internet users at 16.1 million and predicts that figure will explode to 163 million within five years.

For "computer freaks" it will come as no surprise that over the past two decades Australia has evolved into a world-class supplier of information technology and telecommunications. Writing in *The Australian Financial Review* on June 23rd, Brian Hale described how Australian IT is a $40 billion industry with more

computers, processing power and Internet use on a per capita basis than any country outside of the United States.

It can safely be argued that in our increasingly busy lives (particularly if we happen to be parents of school age children) our leisure time is becoming much more limited and much more precious.   We are increasingly more selective about how we use our leisure time and, for many of us, that means we do not listen to the radio in the same way that we once did (maybe there'll come a time when we only listen to the radio when we're driving the highway in our car) ... nor do we use the television in the same way we did twenty years ago.   Pay TV with its specialist style programming is taking audience away from the free-to-air networks and there is a multitude of other options available to us not even dreamed of just ten years ago.   This includes the personal computer and the Internet.

Interviewed on the ABC's *Media Report* on May 1, 1997, Peter Morris, from Murdoch University's Telecommunications Management Program, described standalone computers without a connection to a network as like a car marooned in the heart of a jungle ... it is comfortable and will keep you dry but that is where it stops.   Morris argued that plugging your computer into a network is like putting a road under the car which then becomes a much more useful object. Of course, as we plug our computers into the network (in effect put a road under our cars) we join the superhighway and extend the effects of globalisation.   If you are puzzled by the term super highway ... our very own ITD in Rockhampton says it is just a way to describe all systems that travel over a data cable. That includes free-to-air television, pay TV, telephone and, of course, the Internet.

Every day brings us more information about yet another global media giant joining the rush to create on-line services tailored to the needs of its viewers or readers.   CNN – the world's largest television news network – has launched a series of three interactive web sites offering what the organisation describes as "designer news" covering general, financial and political news.

This web site also offers on-line forums about international crises, interactive chat sessions with network anchors and even a personalised news service that would allow you to nominate the subjects you want information about without all the other information you do not want.   The CNN web site now has 100,000 pages with text, video, sound and graphics kept up to date with a fully-equipped and staffed interactive newsroom.   I have visited this site ... and find it   a fascinating adventure to explore the news of the world as it is happening.

All of this, of course, begs the question - "how will our daily metropolitan and regional newspapers – indeed our free-to-air television and radio services – handle such sophisticated international competition as more and more

Australians join the internet culture?" Why read the local newspaper and watch free-to-air television programs when you can access information meeting your special interest without having to wade through the mountain of other information which may or may not interest you?

So – does our local paper need to join the rush towards globalisation ... or does it need to become more parochial and cover more of the news that is happening here in the tropical north? I believe people have a strong interest in what is happening in their local community. It is why local (regional) newspapers evolved in the first place ... to cover the local news! The local newspaper is the print equivalent of the back-fence over which we used to gossip when we all had back fences and time to gossip.

Magazines and weekend newspapers appear to be the growth areas of the print media. Richard Walsh – Managing Director of Packer Magazines – argues that the magazine market is growing, despite the growth of the Internet. Walsh sees a gender dichotomy as being responsible for this. He says the magazine heartland is its women readers while the Internet is used primarily (about 80%) by young males. He argues that this growth is at the expense of newspapers whose weekday circulations are falling because of the rise in popularity of television and radio as accessible and easily digestible information sources. Walsh also argues that while weekday newspapers are losing ground to radio and television, weekend newspapers, which are more like magazines in newspaper format, are growing because of the strength of print as an entertainment medium. People, it seems, want to sit down at the weekend with their newspapers ... but they want to be entertained as much as informed.

On July 1, *The Australian* carried a story by Trudi McIntosh about James Packer's move to create Australia's first Web TV model which seems set to be launched in September this year. PBL Online is a joint venture between Microsoft's MSN and Publishing and Broadcasting Limited and will link Packer's television and magazine publishing interests with the Internet environment to create MSN-9. McIntosh argued that the Nine network's brand is well known in sport and infotainment circles but the majority of its audience probably does not have access to the Internet. Given that – and the huge audience the free-to-air network already has – one has to ask just what audience MSN-9 would be targeting. One part of the answer would seem to be that percentage of the potential audience it does not already have.

In the face of such active advocacy for the on-line newspaper and television models what happens to the free-to-air television programs as we know them today. Can they continue to exist with the broad mix of information and entertainment they offer today or will the growth of pay television and the Internet environment eliminate the concept? What happens to those people who do not have or do not want access to computers and the Internet ... but who want

to continue to access the broad-based information and entertainment mix now available to them? Will the computer illiterate become the deprived minority of the future?

Certainly it seems that the advertising revenue which at present supports the activities (and the profits) of the daily newspaper, commercial radio and the free-to-air commercial television networks could be a diminishing variable as money from these sources is channelled into the electronic network seen by many as the advertising medium of the future.   In the United States the URL (the Universal Resource Locator ... or the address the user needs to know to move around the internet) is seen as the hip new advertising gimmick and, in *The Financial Review* on June 17, 1997, Chris O'Hanlon described URLs as being seen on nearly every US magazine and TV advertisement. O'Hanlon claims it has taken just five years for the Internet to reach 50 million American homes ... compared with 38 years for radio and 13 years for television ... and he claims there is a lot less understanding of the medium in the US than in Australia.

Phillip Kier, a Sydney-based electronic publisher, claims that by the year 2000 advertising on the internet will be worth about $2.6 billion ... and will rival the commercial radio industry in size.   That would probably be worrying the commercial radio stations. Does this mean the local commercial radio station should become a virtual radio station or does it become more "local and parochial" ... become a real chat line (another variable of the "gossip over the back fence") to attract listeners (and advertisers) away from the virtual chat line of the internet and back to the real world?

And what about the free-to-air regional television networks ... and the Australian Broadcasting Corporation? At present the ABC has an Australia-wide regional radio network which reflects the variable face of Australia. The programs produced at the Mackay regional studios reflect the interests of those people who live in the tropical north ... the programs produced in Albany in Western Australia reflect the interests of those who live in the south-western corner of that huge state. The ABC reflects the diversity of the people who make up the population of this Australia.   Is that diversity to change because of changing technology ... and a diminishing political will to retain funding for that communication network as we now know it?

I have to admit I enjoy using computers and am fascinated by the wealth of interesting sites I can visit across the world just sitting at my desk at home ... but I have to ask are we in danger of losing the national characteristics which make Australians Australian, the Canadians Canadian, the Japanese Japanese, the Russians Russian, the French French and the Italians Italian?

In August last year George Gerbner, now Dean Emeritus of the Annenberg School of Communication at the University of Pennsylvania, expressed concern

at the monopolies being created in the world media. He argued that while the world has more channels of communication than ever before ... among them cable television and the internet ... ownership is shrinking so that fewer proprietors own more channels and can program the same materials across many channels. Gerbner argues that rather than creating greater diversity more channels are creating greater homogeneity, greater uniformity, greater standardisation and greater globalisation. He claims that producing material for many channels for a large domestic market (for example the United States) means you can sell the material produced so cheaply to non-domestic markets that the other market can not compete in terms of cost.

He argued that this made good economic sense but bad cultural sense ... that the more people watch television the more alike their perspectives become. The divisions of gender, age, ethnicity, country of origin (the traditional distinctions among human groups) become eroded, people come closer together and are drawn into the mainstream with a standardised mainstream point of view ... they become part of the global village wearing the same clothes, singing the same songs ... they become standardised and homogenised.

For me that is a very scary scenario ... and I have to ask is the danger of eliminating cultural differences exacerbated by virtual reality and the Internet? I believe it is this threat of homogenisation, of standardisation which needs to be considered when we look at the future of the media in the multi-media world of the 21st century. Do we want to be fed a diet of pre-digested, homogenised, sanitised information that makes us think the same as everyone else?

On the other hand it can be argued that the death and the funeral of Diana, Princess of Wales and, to a lesser extent, the death and funeral of the Indian Roman Catholic Nun, Mother Teresa, have been a demonstration of the enormous reach and power of the global media and how Marshall McLuhan's mid-1960s vision of a "global village" has come to reality. The emotional response of billions of people to Diana's death and her funeral a week later sparked a global discussion of what's been described as a watershed in the affairs of the British Royal Family and, indeed, of the media itself and the role that the paparazzi play within that institution. It was not just radio and television which carried saturation coverage of the two events. Millions of people connected to Internet media sites carrying news and background information about the deaths of these two globally recognised women.

The message to be read in what occurred during the two week period following the deaths and funerals of these two women – so different from each other but each being given iconic status in the media coverage of their demise – is that a global media can be a force for positive change. A globalised media has been seen as removing national and racial barriers, negating religious differences and

as a medium through which the wishes of the so-called silent majority can and will, at times, be heard loud and clear.

In considering the future it has to be argued that the pace of change can be expected to accelerate rather than decelerate. People's habits and preferences change much less quickly than the technology they use – and it has been argued that many are being left behind in our march towards globalisation. However, I do not believe we should be afraid of the changes to come. We should use them to mould and shape the future to meet our perceived needs ... unless we do that certainly the steamroller of technological change will flatten us.

In our bid to control the change we need to tell the politicians, the media magnates, the entrepreneurs what we want in our future. How else can they change to suit our needs? If we do not want magazines to publish photographs which invade the privacy of our public figures – let us say so. If we want more parochial news in our local newspaper or more local news on our television networks let us tell those involved that is what we want. If we want the ABC to continue to exist as a reflection and prediction of the Australian way of life let us tell the politicians so. The old adage "the customer is always right" has to apply. If we do not like what we're being offered let us change it ... let us ask for what we want. If we do not buy what we are being sold can our media outlets ... the newspapers, the pulp magazines, the commercial radio, the free-to-air television networks or the ABC network ... as we know them today survive?

This paper seems to have asked a lot of questions and not provided a lot of answers. That is because I do not have the answers to a question that I am sure is exercising the minds of many many people who are much better qualified to come up with the answers than I am. Personally, I have great difficulty in predicting what is likely to happen five years down the track. How can we with any certainty say what is going to be happening, twenty, fifty or one-hundred years from now? However, it seems safe to argue that newspapers, magazines and free-to-air television networks are here for the long haul ... even though by the end of the next millennium (especially in the light of recent events) they are likely to be very different entities from those we now know.

The Project *Futures for Central Queensland:* Regional and Local Perspectives

Denis Cryle

The aim of this paper is to present the findings of a previous planning exercise: the Futures for Central Queensland Project undertaken during 1995-96. It begins by outlining the project and its regional findings before examining future scenarios for Mackay. The strengths and limitations of the project will be discussed, in the context of the Rural Social and Economic Centre's aspirations and objectives. Essentially the methodology employed is comparative and statistical, drawing upon a wide range of project contributors. A major objective of the paper is to explore collaborative possibilities and research futures for Central Queensland University in its various campus locations.

The Project: *Futures for Central Queensland*

The Futures Project during 1995-96 was the brainchild of the Rural Social and Economic Research Centre, at that time an emerging research unit within CQU. Along with the Asia Pacific Centre, since discontinued, the RSERC (sometimes referred to as the 'Centre with the long name') represented a shift towards the 'soft' or social sciences in a former CAE which prided itself on its strengths in the hard sciences. While strongly sociological in emphasis, the RSERC encourages inter-disciplinary and social research across Central Queensland with a view to developing perspectives on Community Development, Agri Food Restructuring, Cultural Heritage and Rural Health. While its geographical focus was more clearly defined, in certain respects, than its Asia Pacific counterpart, the RSERC was responding to issues of global, economic restructuring, shifts in rural prices, and exports, as well as social, cultural and environmental conditions. In contemplating the Futures for Central Queensland Project, we were struck by the rates of change in the rural sector since the 1980s and the attendant challenges to regional communities. Planning for the futures would encourage empowerment at a time when regions including Central Queensland felt increasingly powerless under pressure from external economies and policy makers.

We were aware that such an exercise would require both community and regional involvement. The RSERC was well placed, in research terms, to

respond to a range of interests, social and economic. But, in practice, participation was limited to local governments, close at hand, with Rockhampton City Council representative, Greg Merry, and Barbara Wildin, Livingstone Shire Council Mayor, speaking at the series of Friday afternoon seminars convened during Semester Two of 1995. In terms of the University campus network the Project did somewhat better by involving researchers from Bundaberg (Lin Hungerford), Emerald (John Rolfe) and Mackay campuses (Rae Passfield). Gladstone's industrial development was the subject of Professor Wolfgang Kasper's address so that demographically, the Project achieved regional coverage, albeit limited by the availability and expertise of existing staff. Not surprisingly, the great majority of speakers were from the Rockhampton campus and, in the edited volume to emerge, the imbalance of university comment over community input was compounded by the inability of some presenters to provide us with copy.

So given these limitations, how relevant is the Futures Project to the 'Visions of Mackay' exercise at present? This was the central issue in the preparation of this paper. For as co-ordinating editor, I had invariably spent more time with the mechanics of editing and less with the assimilation of different research trajectories. The 'Visions of Mackay' seminar contributions conducted over one day rather than a semester, provide me with the occasion to reflect on the meaning of the volume in a new local context. Its relevance appears to be twofold – firstly in providing a general and regional context on the economy, on identity and on the social sector – and secondly, in proposing comparative perspectives between Mackay and other regional centres with respect to such essential topics as economic and population projections, ethnic and cultural profiles, and educational opportunities.

A CQ Regional Profile

To begin with the broader context, several studies in the Futures volume emphasise the dominance of commodity production in the CQ economy. Liam Ryan's (1996: 10) analysis indicates how dominant one commodity – coal – is in contributing 70% of regional exports. In comparison, Central Queensland's other primary industries – beef (11.5%) and sugar (5%) appear modest, though perhaps more significant for the local identities of centres like Rockhampton and Mackay. As confirmed by BHP speaker, Phillip Gasteen, coal production will maintain its dominance for several decades. In terms of a SWOT analysis, mining may be regarded as a strength, though Kerry Walsh (1996: 39) suggesting a larger role for agriculture asks what else will emerge in fifty years or so when many coal mines have been decommissioned. The point about each of these industries, to cite Ron Mullins (Canegrowers), is that Central Queensland producers are price-takers not price-makers. There is then little room for complacency in maintaining and, where possible, diversifying the CQ economy into the twenty-first century.

A more complex picture of the region's social and economic future is available in Gene Dayton's population projections for the various divisions of Central Queensland. Dayton's careful analysis suggests that numbers in South-East Queensland and North Queensland may increase more rapidly than Central Queensland. Nevertheless the populations of Central Queensland coastal centres should grow by some 25 percent (or by 121 000) over a 15 year period to 2006 (1986: 116-117). The breakdown across the coastal centres is relatively even, with the Wide Bay Division (42%) enjoying the greatest growth ahead of Fitzroy (32%) and Mackay (27%). By contrast, the population of the Central West appears to be undergoing steady decline, a trend confirmed by Ryan's economic analysis (1996: 13). The issue here is how to build on emerging strengths like tourism and sub-tropical lifestyle, not forgetting the success of far west centres like Longreach as Barcaldine in maintaining a very different profile (Huf, 1996).

The opportunities for leisure and tourism, as outlined by various writers (Huf, Huf and Litster, 1996) apply well to Mackay, with its access to the Whitsunday group and Reef islands. Population projections for coastal centres are not so great as to threaten the region with over-development through mass tourism, a scenario more appropriate to parts of the south-east of the state. On the other hand, several contributors to the CQ volume appear more sanguine about the future role of agriculture and rural communities. In the case of sugar, Lin Hungerford regards diversification not so much an option as a necessity, if Bundaberg growers are to overcome the fall in prices and the threat of further industry deregulation. Wal Taylor, on the future of the family farm, reminds us that the downturn in primary production is part of a world-wide trend which extends well beyond this region.

Debate over the pros and cons of globalisation appears highly pertinent to the 'Visions of Mackay' exercise. If globalisation is regarded more often than not as a threat in the Futures for Central Queensland volume, it nevertheless generates considerable optimism in the economic prognosis of Wolfgang Kasper. Kasper, basing his future vision on the prosperity of Gladstone, considers globalisation as an opportunity for regional economies to free themselves from the centralising regulatory systems of the nation-state and respond directly to economic opportunities in the Asia-Pacific. Kasper's visions incorporates a role for the university in establishing a high-tech base for technological development and the formation of new global communities. In this respect, the establishment of university campuses across the region provides the possibilities of a strong skills base, better job retention in the region and the networking of the expertise required to bring about relatively even growth across the region.

Of further importance, though understated in the Futures volume, is the politics of regions. Do we in fact run the risk of over-competition within the region rather than with elsewhere? Should the local ethos, entrenched by the daily press

(Cryle, 1996), overstate our rivalries and culminate in parochial contests at the expense of a wider vision? An alternative scenario, closer to the optimism of Kasper, is that of regional unity in the face of interventions by Brisbane or Canberra governments. Yet in practice it is often central governments which have promoted progressive politics on environmental and Aboriginal issues in face of regional reaction. This is not then a particularly constructive form of regional politics, though clearly more necessary in the field of economic policy. Moreover, the anti-centrism of the regional print media has not served merely to shore up the hegemony of the National Party landed interests as my own analysis suggested. Rural anger and the politics of 'One Nation' have exacerbated social and political divisions within smaller communities, thereby threatening their social fabric still further.

A Mackay Profile

For the purposes of the Mackay Profile, this analysis draws not only on the Futures project but on more localised planning within the Mackay community itself. Generally speaking, discussions of Mackay's prospects within the project were limited by the background of contributors and the constraints discussed earlier. Nevertheless, what does emerge on Mackay from the Futures project tends to be positive. Ryan (1996: 131) for example, considers the Mackay economy to be the most diversified of the region. Along with coal and sugar production, manufacturing, tourism, services, education and fishing ensure resilience in the face of declining prices for any one commodity. The 'Sugaropolis' image cultivated historically by the Mackay region is therefore only a part of its story. In this respect, Mackay may be better placed than centres like Rockhampton, the 'Beef Capital', to weather the vagaries and competitiveness of global markets.

Important too for future change are the levels of local awareness exemplified by Visions 2008, the planning exercise conducted a decade ago by the Queensland Bureau of Regional Development in conjunction with the Mackay and Pioneer Shire Councils. (Armit, Garrity and Rogan, 1989). This planning exercise, which corresponded with a down-turn in sugar during 1980s constituted a positive response to perceived local threats and future uncertainties, with the broad intention of "encouraging other communities in other places to plan for their future and to learn, we hope, from our experiences" (1989: 2). One notable strength which emerged during Vision 2008 was the co-operation and planning of the Mackay and Pioneer Shire Councils on such issues as youth affairs, employment, water resources and entertainment facilities (1989: 3). An economic study by the Department of Business, Industry and Regional Development, published in 1992 used a variety of regional indicators to assess the future growth of the Mackay Region until 2011. Its detailed projections suggested steady growth and positive scenarios in most cases. One discrepancy

to emerge was the inconsistency between the growth rate of 2% over the 21 years period and the employment projections of only 6% for the same period (1992: 18). While the lower employment figure was linked to productivity increases in the report, mechanisation may mean that employment does not always match expectations in some sectors.

The advent of tourism and its perceived capacity to offset economic downturn was not without controversy during the 1980s. The emergence of the Mackay Conservation Group, and its dissatisfaction with the lack of consultation and planning at state and local levels deepened by 1989, the time of Vision 2008. Its valuable input was a useful corrective to the prevailing view of tourism as short term commercial development. The MCG engagement during Vision 2008 appears just as relevant for the current exercise, notably in its efforts to broaden the understanding of tourism's impact on local communities:

> Tourism, boom or ban, was a reality. Proposed tourist developments in Mackay had focussed debate on some central issues – not only on the environment, but also on lifestyle and livelihood. How could a community preserve what it loved in its surroundings and yet develop what was needed to sustain an economy? How could a community ensure that everyone would share in the benefits of development? (1989: 4)

A growing awareness of the need to diversify commercially was complemented by the need to control and limit development for the local good. Diversity extends to the cultural sector in Mackay's case, for according to Than Than Nwe (1996: 138), the Mackay Division has the highest proportion of overseas-born in Central Queensland. Moreover, its ethnic communities are relatively stable and roughly equivalent in size. This ethnic diversity, when cohesively and visibly expressed in festivals and civic events, is an important tourist asset for a regional centre, one which is already being felt. In the Victory in the Pacific events of 1995, the Mackay *Mercury* was one of the few Queensland newspapers to incorporate and identify the war-time contribution of immigrant communities like the Maltese.

Clearly, Mackay's strengths in any SWOT analysis appear to outweigh its weaknesses. Even the immediate dislocation of job losses and contracting government sector in the late 1990s is likely to be more severe in smaller rural towns and in centres like Rockhampton and Townsville which have traditionally attracted public-service employment. According to Dayton (1996: 119) the Mackay Division exhibits a higher proportion of younger working adults (20-44 years), with the potential to retrain in diversification scenarios. The age demographic says something about the way young people see the prospects of the locality and distinguishes it from other coastal centres like Bundaberg where the age profile is considerably higher. In Lawrence's view (1996: 55), the mix of lifestyle and artistic activity around Mackay will make it attractive to lone

eagles, younger professionals who, using technologically-sophisticated work-practices, will be able to relocate from the capital cities in search of a friendlier environment. His post-industrial projection may well apply to Mackay in the next century.

> In formerly agriculturally based towns the previous connection between the health of the farm sector and that of the farm will have been more or less severed. These farms will bring in more revenue from service industry salaries, eco-tourist enterprises, recreation and retirement than they will from expenditures by those residing in the farm 'hinterland' (1996: 55).

Whether the primary sector will continue in decline relative to other sectors of the local economy has been questioned by a number of industry spokespeople at this event. Nevertheless, of all the CQ centres, Mackay appears to have the greatest structural capacity to diversify and attract both visitors and residents in future growth cycles.

Concluding Thoughts: Research Futures

My concluding thoughts return to a central theme of the Futures volume, one with great relevance for Mackay – namely what will be the role of the university in facilitating social, cultural and economic development (Zimmer and Orth, 1996)? Here as previously, one encounters both opportunities and difficulties. At the national level, the federal government is promoting a number of initiatives with significant mid-range consequences for regional Australia. The Federation Fund announced by John Howard is to provide one billion dollars over the new few years; another such initiative is the Regional Telecommunication Project, the brainchild of the entrepreneurial Broadband Services Expert Group (1995). The value of developing research expertise through centres such as the RSERC is that it can assist in making Central Queensland responsive and competitive when resources become scarce and funding unavailable. For 'big league' projects, there will need to be co-operation between CQU campuses preferably through existing infrastructure like the Centres. With this regional objective in mind, the RSERC is expanding its programs to include new areas like Technology Transfer and Action Learning as well as Recreation Health and Lifestyle. Several contributions at today's event have demonstrated the relevance of these new Programs to Mackay and its future. Increasingly the RSERC has become truly multi-Faculty and will remain as part of the Institute for Sustainable Regional Development created in 1997.

It is clear that regional researchers may enjoy close contact with their constituent communities. They may even be able to benefit both the University and their communities by performing some of the out-sourced work which local and state governments are now encouraging. But they should not occupy themselves

solely with economic development, in its narrowest sense, or be content solely to generate quantitative statistical indicators of the region's future. There will equally be the need for 'micro' social research at the local level upon which the larger regional frameworks can be built or tested. How we acknowledge diversity and operate regionally may be one of the foremost research challenges for the RSERC and the University. Striking a balance between generating local profiles and more synthetic analyses without retreating into parochialism or overly-generalised assumptions must be one of our mid-term rather than immediate aims. In the short-term, the development of a critical mass of research and research work at campuses like Mackay and the constituent campuses should be an integral part of our collective Vision 2000.

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Futures for Central Queensland:

Part 1   Industry, Economy and the Environment

Part 2   Media, Culture and Identity

Part 3 Developing a Regional Community: influences of ethnicity, education and health

Mackay Online

Steven Pace

Abstract

We are living on the brink of what has been called the information revolution. The first manifestation of this revolution, the Internet, is changing the way Australians work, learn and play. Millions of people around the world use the Internet to exchange text, images, audio and video at unprecedented speed and minimal expense. The Internet of tomorrow promises services such as electronic commerce, home entertainment and desktop video-conferencing. What are the implications of this technology for a regional community like Mackay?

Introduction

Twenty years ago the current US Vice President, Al Gore, coined the term information superhighway to describe his vision of a seamless web of communications networks, computers, databases and consumer electronics. Today that vision is almost a reality. A global federation of computer networks linked together by high-speed telephone connections allows millions of people around the world to exchange text, images, audio and video at unprecedented speed and minimal expense.

This forerunner of the information superhighway, which we know as the Internet, is changing the way Australians work, learn and play, not only in metropolitan areas, but also in regional communities like Mackay. Dolphin Heads Resort, for example, uses the Internet to advertise its services and to promote Mackay as a tourist destination. Students at Central Queensland University (CQU) use the Internet to access educational resources and to communicate with staff and students at other campuses. Clientele of Langford's Hotel use the Internet to relax as they surf (browse) through magazines, art galleries, libraries, museums, music samples, movie previews and countless other online resources.

Although the Internet has already proven its worth as a communications medium for millions of users, it will become significantly more powerful and pervasive over the next decade. The Internet's traditional base of services, such as electronic mail and information retrieval, will expand to include electronic commerce, home entertainment and desktop video-conferencing.

The Internet community will continue to diversify, encompassing large numbers of households and small businesses, as well as educational, commercial, industrial and government organisations.

There is little doubt that the Internet will have a profound impact on Australia's social and economic structures. Buckeridge and Cutler (1995) describe the rise of an online economy as 'the most important challenge facing the Commonwealth Government' since the floating of the Australian dollar in 1983. What impact will the emerging information superhighway have on a regional community like Mackay? This paper answers that question by discussing likely developments in the areas of business, education, health and entertainment.

Superhighway or Goat-track?

The Internet of today is not the information superhighway that Gore envisaged. 'Information goat-track' is probably a more apt description. Certain types of data transmissions can be painfully slow. A page of text may be downloaded in less than a second, but a colour screen-sized image may take several seconds, depending upon the type of Internet connection the user has. Real-time applications such as desktop video-conferencing are impractical at current data transfer rates.

The reason for today's slow data transmissions is the inadequate bandwidth of the telecommunications networks. Bandwidth is a measure of the volume of data that can be transmitted through a circuit in one second. Most of the telephone lines that connect Australian homes and businesses to the Internet are low-bandwidth copper cables which are incapable of transmitting large volumes of data at high-speed. However, that situation is about to change.

Within the next few years the communications bandwidth available in urban residential and business areas will grow by a factor of 100 as Telstra and Optus complete the rollout of the hybrid fibre/coaxial (HFC) networks that will be used by the Optus Vision and Foxtel pay TV services. These HFC networks have a large amount of unused bandwidth, and both Telstra and Optus plan to use that excess to provide high-bandwidth Internet data services. Telstra's Big Pond Cable Internet service is already available to approximately one million households in Sydney and Melbourne. Exactly when that service will be available in Mackay is unclear, but Buckeridge and Cutler (1995) predict that 'eighty percent of [Australian] households and most business sites will have access to broadband digital networks by 1999'.

The widespread availability of high-bandwidth data networks will stimulate new services such as video-on-demand.

Australia will have 'the fastest and most advanced high-speed local data networks in the world', and if these are complemented by improvements to

international data links, Australia could have 'the best Internet connectivity in the world' (Petre & Harrington 1996).

The Impact on Business

The information superhighway will empower consumers and dramatically increase the level of competition facing Australian retailers. When Mackay residents make a purchase, their choice of suppliers is usually limited to three or four local businesses. In contrast, the Internet allows consumers to shop in a global market with hundreds of suppliers (see Figure 1). Retailers of non-perishable goods and services have migrated to the Internet in droves. Books, clothing, compact discs, magazine subscriptions, software, wine and countless other products can be purchased online.
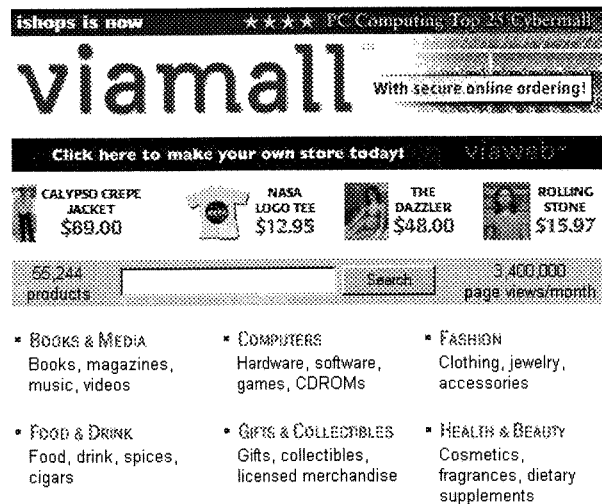

Figure 1. Viamall (http://www.ishops.com) is one of many retailers on the Internet.

Although retailers have readily adopted the Internet as a place for doing business, consumers have been slow to follow suit. Many potential Internet shoppers fear that their credit card details will be vulnerable to hackers once they are placed online. Consumers remain generally unconvinced by the argument that traditional credit card use is just as risky as an Internet transaction. In an effort to allay these security fears, a consortium of finance and software companies, led by MasterCard and Visa, have proposed a technical specification for Secure Electronic Transactions (SET). SET defines a protocol for transmitting credit card details across the Internet in encrypted form, reducing

the possibility of fraud. The standard is almost guaranteed success:

> it is open; can be easily adopted by any supplier; is consistent with the existing infrastructure for credit card payments; and has the backing of a number of influential participants (Twentyman 1997).

Given this positive outlook, it can only be a matter of time before online transactions become commonplace. Once the infrastructure is in place, the security problems have been resolved, and a critical number of users adopt it, most businesses will want to reach out to their customers over the information superhighway. 'Friction-free capitalism' will become a reality (Gates 1995; Petre & Harrington 1996). Consumers seeking a particular product will be able to quickly find the names of suitable suppliers around the world, compare their prices, and place an order with the one that can deliver the product at the cheapest price.

This point was impressed upon the author recently while shopping online for a programming textbook. Two Australian retailers, Dymocks and McGills, priced the book at $A99, while US bookstore Amazon.com (see Figure 2) offered the same title for the significantly cheaper price of $A57, including postage and handling. Needless to say, Amazon.com made the sale. Sales tax and import duty were major components of the price differential. A wide range of products can be imported into Australia tax- and duty-free under the concessions available for goods of insubstantial value (Australian Taxation Office 1997).

Figure 2. Amazon.com (http://www.amazon.com) offers a large range of books at very competitive prices.

Keeping this scenario in mind, Mackay businesses should be working towards the goal of providing products and services that meet the needs of international consumers as well as local ones. Rather than focussing on ways of building a stronger relationship with the local community, they should be thinking about ways of building relationships across Australia and around the world.

The Impact on Education

The information superhighway will give education the potential to become a global industry. Australian universities will face competition from foreign universities offering online distance education programs. Petre and Harrington (1996) believe that Australian students will choose to 'access these online programs, perhaps initially as a complement to their local programs but later as a substitute for the Australian program if it doesn't achieve the same standard'. A Mackay school-leaver could elect, for instance, to complete an online Bachelor of Arts degree through Washington State University (see Figure 3) instead of attending CQU or some other Australian university.
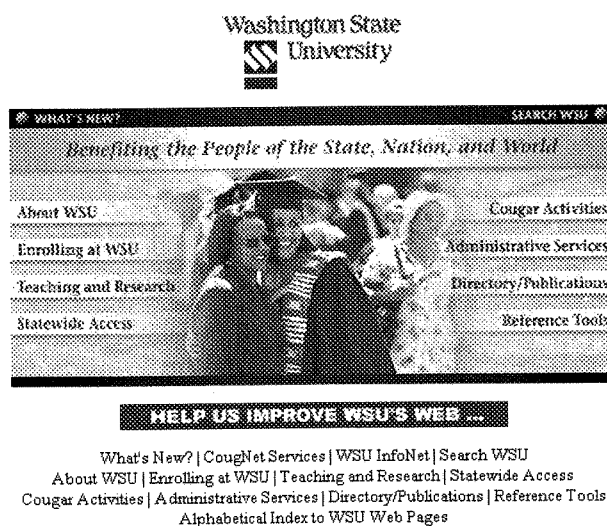

Figure 3. Washington State University (http://www.wsu.edu) offers online distance education programs to students around the world.

While this development clearly challenges Australian universities to match the best in the world, it also provides a tremendous opportunity for them to sell their online curricula overseas. Students living in Singapore, Dubai and Hong Kong

are already completing distance education courses provided by the Faculties of Applied Science and Business at CQU.

The flexibility of the information superhighway may initiate a new just-in-time, on-demand approach to education. Students will potentially be able to learn what they need, when and where they like, and in the format most appropriate to their circumstances. Universities could abandon the current 'single-dose' model of education involving an intensive three- or four-year full-time burst in favour of a 'drip-feeding program' spanning the student's entire working life (Petre & Harrington 1996).

Hamalainen, Whinston and Vishik (1996) foresee a time when intermediaries they call 'education brokerages' will play a major role in administering and delivering these new electronic educational products. Education brokerages will market and advertise online courses, process student applications, and match student needs with courses available from any number of educational suppliers. One could imagine the Queensland Tertiary Admissions Centre (QTAC) adopting such a role, promoting the courses of Queensland universities to clients around the globe.

The Impact on Health

The information superhighway will substantially reduce the drawbacks of living outside a major metropolitan area, particularly for people with health problems. Central Queensland's distance from Brisbane and the relatively small population of its towns and cities makes it very difficult to attract medical specialists to the region. In Queensland, a population of 18 000 is required to support a general surgeon, a population of 75 000 is required to support an ear, nose and throat surgeon, and a population of 90 000 is required to support a urologist *(Daily Mercury 26 Apr. 1997, p. 7)*.

While the information superhighway will never completely replace a visit to a local doctor or hospital, it will provide tools that improve the availability of specialist services. Using these tools, doctors will be able to analyse medical images captured from patients living in remote locations. For example, a patient with a thyroid problem could undergo a radioactive iodine screening test at the Mackay Base Hospital, and within minutes, have the thyroid image analysed by an endocrinologist at the Royal Brisbane Hospital. The ability to diagnose patients at a distance means that people living in regional communities throughout Queensland will have access to the same medical expertise as Brisbane residents.

The Impact on Entertainment

Over the past five years the Internet has developed from a primarily text-based communications medium into a channel for home entertainment. Users can watch video clips, listen to music, read books, play games, chat to people with similar interests, or just surf mindlessly until something captures their interest. Online entertainment has become so popular that Internet-enabled televisions are starting to appear in markets around the world. WebTV, for example, is a $US300 set-top box that lets users surf the Internet via their television set.

The convergence of television and the Internet will stimulate the creation of new services such as video-on-demand. Today television is a synchronous media – programs are usually viewed while they are being broadcast. When high-quality video can be transmitted over the information superhighway, users will be able to watch what they want, when and where they like. Gates (1996) predicts that television programs will continue to be broadcast as they are today, but once a program has gone to air, viewers will be able to request it whenever they want. The latest episode of *60 Minutes* may be viewed at 7.30 p.m. on Sunday night or at any time thereafter. Newly released movies will continue to be rented, but probably not from stores. Instead, consumers will shop on the information superhighway for movies that can be delivered on demand. Negroponte (1996) predicts that 'videocassette-rental stores will go out of business in less than ten years'.

Another revolutionary feature of video-on-demand will be the ability to transmit contextual information with each program. Sporting events, for example, could be broadcast with profiles and statistics for each player. Viewers will not necessarily have to access the additional information, but it will be available at the touch of a button. Foreign movies could be broadcast with additional soundtracks, allowing viewers to hear the dialogue spoken in their own language. Programs designed for a mature audience could, at the viewer's discretion, be instantly modified for viewing by a younger audience. As Negroponte (1996) puts it:

> Today's TV set lets you control brightness, volume, and channel. Tomorrow's will allow you to vary sex, violence and political leaning.

All of these changes will amount to a richer experience for television audiences. Once the infrastructure is in place and television producers start exploring the possibilities, video-on-demand may well become the 'killer application' of the information superhighway – a use of technology so attractive to consumers that it makes the invention seem all but indispensable.

The Challenge for Mackay

The rollout of two high-bandwidth data networks is an important step in the development of a domestic online services industry, but it is not enough to guarantee Australia's position at the forefront of the information revolution. To be truly competitive in this new environment, Australians must think seriously about the services and applications that will be delivered over these networks. Australians must become skilled in creating, manipulating and adding value to online content if they are going to compete with overseas providers of online services.

Mackay faces a special challenge in this regard. The region has traditionally prospered from industries that control physical resources such as coal, sugar and tourism, but over the last two decades there has been a global 'shift away from physical assets and towards information as the principal driver of wealth creation' (Petre & Harrington 1996). The risk for Mackay is that its residents may be inclined to believe that wealth can only be created by means of industries that control physical assets. The community must realise that its value-added information is at least as precious as its abundant natural resources.

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Degrees of Distance

Mary McDougall

Many intending entrants into tertiary institutions may feel precluded by their lifestyle and workplace situations from study on university campi. This paper is a detailed study of tertiary participation in the Mackay area over several years. Although the writer uses the teaching profession to illustrate the growth of distance education and the nurture of research in a certain district, such detail could apply equally to any graduate who has completed a first degree and would like to proceed with postgraduate studies. Central Queensland University is young in years. The thesis of the first PhD of the Education faculty can now be viewed in the Rockhampton University Library.

To stimulate a collegiate approach to research on the Mackay campus, Dr Geoff Danaher has convened a research group that meets monthly. Most members are PhD or doctoral candidates enrolled either in a full or part-time distance degree through Rockhampton. Senior members of the group may use their research experience to address the needs of all. Discussion has centred on the approach to an emerging research culture in Mackay.

The presence of this university building is not just a physical reality, but a symbol of hope for the future of this region. Such symbolism was displayed at the opening of the new lecture rooms recently, when a waterfall was constructed virtually overnight, to recycle and replenish the cooling effects of the campus lake and surrounds.

But university life cannot be transplanted in such a manner. Academic spirit has to be coaxed and fanned into a continuous flame, which will stimulate the vision of Mackay. That glimpse of the future needs to be expounded, explored and exploited so that existing and future citizens know the wealth of the past, and can thus plan with wisdom for the coming millennium.

Just as the Internet is at present being explored and sometimes exploited so too the old ways in education are giving way to technological progress. What do you know about the Internet, E-mail, attachments, voice mail, modems, scanners or the digital revolution? We are still learning!

Learning in Mackay has been a difficult task. Cast yourself back in time. However, some people present today are, like myself, harbingers of the myriad

numbers who moved north to live. We were used to city dwelling, the well-known universities, specialist medical care, and cultural entertainment. Early Mackay people had to travel south for such luxuries or necessities.

Many local students had to grow up quickly. Some attended boarding schools, and then went straight into university or other tertiary courses in Brisbane. Teacher training may have been in tiny schools where novices were engaged in pupil teaching, and hence studied at night. Those who continued their secondary studies in Mackay could leave after Grade Ten to commence teacher training for a two year course, or a one year course after Senior, at Kelvin Grove.

One such teacher explained how it was such a big step for a young man or woman to move down to Brisbane. The only way her family was able to finance her education was through the early Government scholarship, then she was 'bonded' and supported through an allowance to become a teacher. Children became strangers to their families in the effort to be educated and employed, and were often lost to the Mackay culture.

It is important to remember the time when there was no university presence in this city, no models to reflect academic life for secondary students who might wish to partake of higher studies. Because Mackay is a sugar city, newcomers to the locality will see the imposing building of the Sugar Research Institute at City Gates, and also the Bureau of Sugar Experiment Stations at Te Kowai. The research undertaken by such facilities has contributed to the economic and social life of this region, as often portrayed by the local *Daily Mercury* newspaper over almost a century.

Sugar was not the only industry in this area. Hay Point was developed as the port to export coal from the Mackay hinterland. Many towns were created to service the new open-cut mines west of the ranges. Social structures, particularly primary and secondary schools, were eventually to overcome isolation from coastal settlements.

Readers would have become aware of post-doctoral research projects. However, most Mackay school children, although comfortable with the honour of the title Doctor, may not have been familiar with the terms: undergrads, postgraduates, Diploma, Bachelor and Masters degrees. Teachers Colleges became part of the Institutes of Advanced Education. Mackay students could have the choice of going south, or north to teacher education in the Institutes of Advanced Education at Brisbane, Rockhampton and Townsville.

Politically, education was changing, as equal pay meant that women could have the choice to pursue a teaching career after marriage. Teacher registration in Queensland became compulsory. Syllabi changes brought school-based curriculum, particularly in the subjects of Mathematics and English, that led to

an awareness and exploration of the need to update teaching skills. Stimuli to professional development needed to be provided from multiple sources (BTEQ 1987: 122).

Courses were introduced in the 1970s to permit teachers to upgrade their qualifications to a Diploma of Teaching (BTEQ 1987: 29).

At this time Mackay teachers were introduced to the element of competition. Such upgrading was usually through the medium of external studies. Familiar with the concept of 'bum in seat' with initial training, teachers had the choice of In-service courses from Brisbane, Rockhampton, Townsville, and even further afield. If one chose south or north, the lecturer might travel to the University Centre at Penn Street, Mackay, to meet with us for an hour. That is what distance education meant – the bridging of the tyranny of distance. You may not see that academic again, over the two-year course, even at graduation at the Centre in Mackay. Unfortunately each student was a number, a reader, a writer, a lone thinker, posting and receiving assignments.

You were juggling teaching, study and family commitments. You received no more salary for this, but you became a committed teacher. Leader teachers were trained in the BLIPS (Basic Learning in Primary Schools) program and were able to in-service whole staffs, and perhaps others, to bring the knowledge of 'Hands On' Mathematics programs to students and parents. The ELIC program (Early Literacy In-service Course) was designed to prepare staff for changes in the Language area.

Many experienced teachers welcomed prospective graduates from secondary schools who came to classrooms to inquire about a teaching career as work-experience students. For their practicum in Mackay schools, teacher trainees could come from various campi. Now some could stay home with family here for that time. Eventually the first teacher graduates came to Mackay from Capricornia Institute of Advanced Education at Rockhampton.

With the withdrawal of the In-service upgrading course, one and two-year "trained" teachers were able to enrol in an extended Bachelor of Education course (BTEQ 1987: 130). Teachers Colleges were incorporated into university institutions, such as James Cook University, Townsville, and later UCQ, Rockhampton.

Some technological advance was apparent, as a group could sit together round a table using wired phone-connections to speak, individually or together, to the distant lecturer. You were still a number, with students and lecturers faceless, and leaving just the written comments at the end of the assignments.

The Higher Education policy statement was released by John Dawkins, the Minister for Employment, Education and Training, in July 1988 in Canberra. A

unified national system of higher education was to be funded by the Commonwealth Federal Government.

Under the new system there were to be fewer and larger institutions, with more effective coordination on issues such as course provision, disciplinary specialisation and credit transfers (Dawkins, 1988: 27).

Proposals for consolidation were considered by the relevant Joint Planning Committee. The Commonwealth's interest was to achieve the maximum educational, equity and efficiency of consolidation proposals, and to ensure that the strength of existing institutions was retained under the new arrangements. The paper outlined proposals for enhancing the provision of external studies by reducing duplication, and improving the overall quality and availability of distance education courses (Dawkins, 1988: 48/49).

Competition for Distance Education students intensified, and the news that the University College of Central Queensland at Rockhampton was to become a university in its own right was welcomed by many. Teachers who chose to study the In-service Bachelor of Education degree over two years could still meet at Penn Street for library services, teletutorials, and examinations. With the completion of the coastal road to the south, the journey down to Rockhampton was noticeably shortened, and so graduation at UCCQ, soon to be UCQ, had become common, for Mackay residents, only three hours away. Such studies are of vital importance to people in rural and geographically isolated areas, such as Mackay, for many of whom it is the only means of access to higher education. This national system was good news for Mackay. A university campus was to open here in 1992!

Study leave was possible for teachers, some of whom used that time to relocate temporarily to southern universities for full-time or part-time postgraduate degrees, such as Masters in Education. Why do students want to continue to study? It is not just to obtain education degrees, but degrees in all faculties. Some may aim in their life to continue as far as they can or wish, perhaps as a career advancement, or to gain more knowledge in their areas of expertise. Study leave overseas or in a big university, such as Monash in Melbourne, can broaden one's horizons. One can reap the benefits of huge libraries, study with well-known academics, join in the Postgraduate society, use the many recreational clubs, medical facilities, or study with international students. To be on any campus is to enjoy university studies, but to many students the appeal is to experience that university's own unique research life.

Since 1992 the school leavers of Mackay have been able to take their place in the University corridors at Boundary Road.

This growing Mackay campus in 1997 has an enrolment of four hundred and forty-three, including the Central Queensland Conservatorium of Music. Finally

this week, the announcement was made by head of Mackay campus, Associate Professor Joe Hallein, that the Central Queensland University planned to offer a complete Bachelor of Education (primary) degree at Mackay. At last Mackay students who wish to become teachers do not have to leave home. The modern, attractive campus buildings are set in tropical, landscaped grounds surrounded by lush canefields.

A wide range of facilities includes two 24-hour computer laboratories, two large lecture theatres, tutorial rooms, lecturers' offices, and a refectory. The Hannah Drysdale Library houses a multimedia collection and offers an electronic library service. The CQU is one of the nation's leading providers of distance education. A significant number of courses are available through distance education study which caters for those unable to attend classes due to family responsibilities, work commitments or physical disabilities. These courses, in the main, are identical in content and assessment to those offered on campus.

This newer model of university uses the latest technological wizardry to benefit internal and external students in their studies. The Information Technology Division is responsible for a wide range of computing and communications facilities throughout the university.

These advantages are provided in some instances to enable students to complete coursework and in others to enable one to broaden one's skills in the ever-changing world of information technology.

Much of this may be undertaken at the university, although some members of the Mackay research group have set up modem-based computers, printers and equipment. In this way that tyranny of distance may be thwarted. Travelling to supervisors and seminars in Rockhampton can be expensive and time consuming, although of course sometimes ineluctable. Phone calls over Australia or globally can be minimised. In this manner communication is facilitated by E-mail, faxes, voice mail, file transfer, and through the Internet. Research may be conducted in the Mackay home, allowing that 'bum in seat' to be allotted on campus.

Communication for research students, in Masters and PhD candidates, is mandatory. Knowledge and skills of accessing information, via electronic means, includes the ability to use modern libraries and to undertake computer-aided literature searches, and to communicate with educational stakeholders using modern communication technologies (*Postgraduate Handbook*, 1997: 108).

Research in the teaching and other faculties in this district is not well known. Many issues in teaching alone, such as an imminent teacher shortage, are being researched. It is hoped that the adventurous spirit of the speakers at today's *Visions of Mackay* will permeate our research culture!

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Regional Health Services and Ethnic Minorities: Time for a Change

Lorna Moxham & Shane Pegg

Abstract

The culture of the current health care system revolves very much around an approach which is intended to suit an Anglo clientele. Quite simply, health services do not reflect the diversity of the population and the needs of individuals from various ethnic backgrounds.

Whilst there are a number of factors that contribute to the difficulty of providing services to ethnic minorities, such as lack of finances, technical constraints and a lack of strategies, there is, in a real sense, a growing onus on health services in Australia to provide culturally responsive health care. People from non-English speaking backgrounds are amongst the most disadvantaged clients of the health services, have a low awareness of the availability of health services, and minimal knowledge of consumer health rights. This paper will discuss these issues with a regional focus, and argue that it is "time for a change".

Introduction

In our presentation today, we wish to focus attention on the many challenges facing health services, in seeking to cater for the needs of various ethnic communities in regional Australia. From the outset, it should be noted that the changing cultural landscape of Australian society, and the commensurate pressures brought to bear on the health system, have come about because of a number of reasons, not the least of which are:

* an expansion of immigrant and refugee populations;
* the retention in micro-societies of their cultural heritages;
* the political enfranchisement of minority populations; and
* a move from a 'melting pot' view of multicultural society to one more reflective of a 'rainbow' society.

Tyler, Ridley-Brome and Williams (1991) proposed that ethnicity is essential to the development of an ethnic identity as it has a direct relationship with the individual in her or his social milieu. Culture on the other hand, is the ecological system (communities) within which the individual is embedded. These

communities serve to provide the individual with a sense of self-definition in the world at large. Health care workers should, therefore, be cognizant of the importance of the following terms, and understand their respective meanings (Grossman, 1995) when attempting to develop culturally appropriate health care services:

Ethnic Identity is a sense of group membership that is based on shared customs, values and ancestral histories. It is the conscious identification of an individual with his of her ancestral group.

Culture is what a group of people identify as common to them, and it is represented by the shared beliefs and expectations of the group. Culture refers to the part of the human experience that is created by the individuals themselves. It includes such things as language, values, experiences, symbols and art. Culture develops within a social, political and historical context and expresses a group's preferred way of thinking about the world.

Boyle and Andrew, 1989 (in Wass 1994, p. 52), succinctly define culture as "a way of perceiving, behaving and evaluating one's world. It provides the blueprint or guide for determining one's values, beliefs and practices".

Cultural Sensitivity refers to a provider's ability to balance a consideration of universal norms, specific group norms, and individual norms in a variety of arenas. Thus, cultural sensitivity involves balancing different norms and constantly testing alternative hypotheses. These arenas may include differentiating between normal and abnormal behaviour, considering etiological factors related to impairment, and implementing appropriate interventions that hold meaning within diverse cultures.

The Importance of the Cultural Perspective

So, then, why is it important for health care professionals to have this cultural perspective in terms of their way of thinking?

From the outset it is important to recognize that what the individual constructs as her or his meaning of health, is invariably culturally defined. The experiences of health and illness, understandings of the etiology of disease, and the diagnosis, treatment and expected outcome (prognosis) of ill health, are all culturally shaped with much of the work of medical anthropologists being built on an understanding that illness and disease are culturally constructed (Paul, 1955; Landy, 1977; Foster & Anderson, 1978; Kleinman 1980; Helman 1984).

As such, sickness, or illness, is a term understood in a myriad of ways by different ethnic groups.

As Waddell & Peterson (1996) point out, "in a multicultural society such as Australia, where individuals may recognize and respond to perceived ill health in

a variety of ways, and as a consequence of very different understandings of the 'normal' and the pathological, the possibilities for misunderstanding are manifold".

The assigned identity of the health worker, her or his place in society, as well as their particular philosophical stance may vary radically from one culture to another. Therefore, the effective provision of health care depends upon understanding the individual's culture in regard to health, illness and treatment.

For example, the use of a practitioner (a hakim or vaid) by members of the Asian community, and a traditional healer (a curanderos) by people from Central America, as an integral component of their overall medical care, is a well accepted practice for people within these ethnic origins. Similarly, Arabic and Asian women who have recently arrived in Australia from their country of origin, may have great difficulty allowing a male doctor to touch them, as would, conversely, an Asian male allow himself to be touched by a female doctor. Further to this, culture patterns illness. There would thus appear to be "culture specific" syndromes. An example of a culture-bound syndrome is Susto, or magical fright. This is a syndrome that is characterized by feelings of depression, anorexia, disturbed sleep patterns, loss of interest in personal appearance and diminished attention to personal hygiene. It occurs widely throughout Latin America. Susto is usually treated by the aforementioned curandero. Cultural interpretations of signs and symptoms are universal and mean that different cultures will thus formulate different diagnosis. In the above example, an Anglo diagnosis may well be one of depression with psychiatric intervention the strategy for treatment.

Becoming culturally sensitive, though, and developing an awareness of the norms and values of a culture, does not come automatically to health workers. Often, such sensitivity is developed only after long term involvement with such communities and, it has to be said, with some degree of "head banging" to find workable health care solutions. Given these difficulties, Wass (1994) identifies sensitivity as the most useful skill a health worker can posses when working with people from other cultures.

Cultural Considerations

Sue and Zane (1987) indicate that the single most important explanation of the problems of service delivery to ethnic minorities involves the inability of health workers in regional communities to provide culturally responsive forms of treatment. The assumption here is that most health care professionals are not familiar with the cultural backgrounds and lifestyles of various ethnic minority groups, and that they have received training for servicing the needs of a primarily Anglo population. As a consequence, health workers are often unable

to devise culturally appropriate forms of intervention, and ethnic minority clients frequently find services alien to their beliefs and not at all helpful. It is a point discussed at some length by Airhihenbuwa (1994, 1995), who contends that the critical link between health and culture in health education and health promotion, as well as the overall public health picture, must be understood, in order to affect positive health outcomes in an adequate way. It is fair to say that for health care professionals in regional areas of Australia, there is still much to be learned in terms of providing appropriate services for ethnic minorities and, more broadly, those communities with diverse cultural backgrounds. This includes, of course, indigenous Australians, for whom Walley and James (1995) have raised concerns about how health promotion messages are currently being communicated.

Major Barriers to Health Services

Minority ethnic groups, especially in rural areas, where their numbers are generally smaller, tend to have a number of characteristics in common. They tend to be stereotyped, segregated, and often, discriminated against. They also find themselves personally powerless to deal with the social forces that are operating which, in turn, maintains them in this position of disempowerment. Furthermore, the health care environment tends to place responsibility for the problems on the individual, rather than on the system. There is no "quick fix" to the problem however, for the extent of this conflict is rooted in a complex amalgam of social causes and it is often impossible, or difficult, to isolate such variables as the individual's ethnicity from their social, economic and political context.

For many then, this poses the massive personal task of integration, in making adaptations to the demands of the health care system, that denigrates both the individual and the broader ethnic group. In order to survive and utilise this alien system, members of the group are forced to come to terms with the potent force that constantly, and in a variety of ways, says they are no good. In a study by Khan (1994) of barriers that members of various ethnic minority groups faced when attempting to utilise health services in Queensland, it was found that there were significant differences in the provision of public health services to persons of non-English speaking backgrounds (NESB), as compared to those of an English speaking background. Khan suggested that, by and large, there are few mechanisms at the health service delivery level, to identify and address the needs of these NESB clients. He suggested that these differences were apparent across a range of services but were most noticeable in disciplines such as psychiatry, speech therapy, rehabilitation programmes and obstetrics. The study also showed that members of ethnic communities often:

- provide the bulk of the requirement for language services in health consultations. Interestingly enough though, most of these services are

provided by NESB persons who themselves are not proficient in English;
- are not receiving appropriate and adequate nutrition in care;
- do not understand explanations given to them about their condition/s;
- are not aware of the most appropriate service to approach in the first place;
- do not know if they have received appropriate treatment;
- are unaware or do not understand options for treatment;
- are intimidated by large institutions and the staff who work in these institutions;
- are misunderstood by health workers;
- do not understand treatment instructions;
- are isolated from staff and other clients who are also in care;
- are not able to explain their need for an interpreter;
- are not able to find the services in the first place, make appointments or obtain information;
- face difficulties using the public transport system;
- are not aware of their rights; and
- often compare the health care system in Australia to that of the health care system in their country of birth.

Given these factors, it is not difficult to imagine that the experience and expectations of an elderly Anglo-Australian woman admitted for exploratory surgery, as opposed to that of an elderly Chinese woman, would be incomparable.

It is important to note too, that all of these factors indicate varying levels of expectations of health services (Khan, 1994, p.36). A major role that health service providers can play then, in servicing these people (which, it must be remembered, is also serving the total group), is that of advocacy in both the legal context of one who pleads the cause for another, and the political conceptualization of one who argues for, defends, maintains or recommends a cause or proposal.

As noted earlier, the culture of the health care system currently revolves very much around an approach which is intended to suit Anglo clientele. British invasion of Australia resulted very much in the development of a nation that was predominantly based on the beliefs and attitudes of the Anglo-Saxon people (Rice, 1985). Quite simply, health services do not reflect the diversity of its clientele in regional settings and the needs of individuals from various ethnic backgrounds, let alone our own indigenous population. While managers of most services will point to limiting factors such as, lack of finances, and technical constraints, like lack of strategies to effectively deal with ethnic minorities, there is, in a real sense, a growing onus on health services in Australia to provide culturally responsive health care. This really is hardly surprising, given the diversity of backgrounds from which Australians have originated. Yet, it is an

issue that clearly still needs to be adequately addressed. Waddell and Peterson state that "Recognition of the heterogeneity of immigrant Australia and the distinctive social, cultural and linguistic background of clients of health services is critical in health care encounters" (1996).

Changing a system, however, especially one as enormous and entrenched as a health care system as we have in Australia today, is fraught with difficulties, as workers may be faced with the need to make changes in services of which they are a part, and there is, as such, an element of personal risk involved. However, while the health care industry may accept or reject pressures from time to time, it cannot simply ignore them.

People from a NES background living in regional Australia are among the most disadvantaged clients of health services, and to compound this, they have a low level of awareness about the availability of health services and minimal knowledge of consumer health rights (Khan, 1994, p.36). All this, in an environment where insufficient population, lack of infrastructure, lack of collateral services, the shrinking of the voluntary sector, and distant and dispersed demands have contributed significantly to reduced access by Anglo populations to health services in regional Australia in recent years (O'Connor & Parker, 1995).

To steal a line from 1972, and Gough Whitlam's federal Labor campaign, "It's time for a change!"

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Leisure and Older Adult Health in a Rural Setting

Shane Pegg & Lorna Moxham

Abstract

The coming millennium will see a significant change in the demographic makeup of Australian society. This shift will most markedly be noticed in regional communities, where the rapid increase in the older adult population (those aged 65 years and older), as a total percentage of the overall population, will bring the health profession to a point of some crisis if current practices are maintained. Future trends suggest that not only does the profession need to move away from a heavy reliance on the medical model as a basis for health care, but it also needs to take a more proactive role in terms of illness prevention and health maintenance for older adults. The significance of leisure, in terms of promoting healthy lifestyles and successful aging for older adults, as a key element of health services in the future, can not, therefore, be overstated.

Introduction

As noted by Teague and McGhee (1992), the decline of health and mobility with advancing age demands a search for new alternatives to meet the health needs of older adults (p.31). In this paper, we look at the phenomenon of an aging population, and seek to identify some of the myths and stereotypes that have been portrayed about the aged. We will also discuss some alternative ways how we, as health professionals, might better serve older adults in rural communities.

The Aging of the Australian Population

The aging of the Australian population has received increasing attention by academics and service providers in recent years. This phenomenon, the result of declining birth rates and longer life expectancy, has substantial implications for agencies of all types responsible for providing health services for the elderly.

The Bureau of Immigration Research (1991) estimated that, by the year 2001, the number of aged people in Australia will grow by two and a quarter million or 16%. In particular, the Bureau suggested that, for the states of Queensland and Western Australia, growth could be expected at an even greater rate. The Bureau

estimated that the growth rate for these states to be over 20% for the same period, with increased migration from the southern states being a determining factor for increased numbers of older people (Bureau of Immigration Research, 1991).

Projections for the period 1989-2031 by the Australian Bureau of Statistics (1990) suggest that the aged proportion of the Australian population will exhibit increased growth after the turn of the century, and especially after the year 2011. The Bureau stated that over the next four decades the proportion of the population under 14 years will continue to decline (from 22% in 1990 to 17% in 2031), and the proportion of older Australians will increase from 11% of the population (1.9 million) to approximately 20% (5.2 million) over the same period (Australian Bureau of Statistics, 1990). Significantly, people aged 80 years and over are the fastest growing age group. In fact, the number of people aged 80 years or older has increased by more than 100% in the last twenty years and it is this group that is increasingly drawing upon the limited resources of the health system.

In terms of rural communities, about 37% of older Australians currently live outside capital cities with a further half of this figure living in truly rural areas (Australian Bureau of Statistics, 1990; Mathers, 1994). Importantly, for health care professionals and, more generally, those adults living in rural areas, a number of researchers (Humphries & Rolley, 1993; Mathers, 1994; Reid & Solomon, 1992) have concluded that those living in rural communities experience significantly more ill health than do those living in urban areas. Statistically, this is exemplified by significantly higher rates of death from causes such as bronchitis, asthma and injuries, compared to those living in urban communities. Importantly, researchers (Humphries & Rolley, 1993; Mathers, 1994; Reid & Solomon, 1992) identified the aged, as a part of the broader rural population, to be over-represented in statistics compiled on ill health with significantly higher death rates than their urban counterparts recorded from causes such as pneumonia/influenza (15% higher for women), bronchitis/ emphysema/asthma (16% higher for men), and diabetes (11% higher for women) (Mathers, 1994, p. 112). Significantly, older adults living in rural areas reported around 20% more hospital episodes, fewer doctor and dentist visits, and were less active (men – 28% higher, women – 16% higher) than their urban counterparts (Mathers, 1994, p. 112).

The Impact of an Aging Population on Health Services

The statistics relating to the elderly population are, of course, of particular importance to service providers in regional communities such as those in the health system, since the nature and the duration of illness suffered by the aged are also expected to change (Colston, 1986; Teague & McGhee, 1992). This is

exemplified somewhat by the fact that growth in the number of elderly people and the continued expansion of health services will almost triple the number of hospital days for patients over 65 years of age by the year 2000 (Teague & McGhee, 1992). Also, the number of people who will require some form of residential care will also increase (Graycar & Jamrozik, 1993) with older adults expected to account for in excess of 33% of the total amount committed towards health expenditure in Australia (Mathers, 1994). The importance of preventive programs and services targeting positive health behaviours of older adults in rural communities of Australia is, then, of vital importance.

Ageism and Stereotypes Associated with the Aged

The elderly have previously been portrayed in the community as helpless, confused, resistant to change, and generally unhappy (Butler, 1975; Russell, 1987), which has led to the stereotyped image of them as being frail and foolish. Kelly (1987) believed that these prevailing myths and negative stereotypes have largely discouraged older adults from participating in a range of pursuits in their later years from which they could have benefited greatly. This has, in turn, "resulted in the self-fulfilling prophecy whereby the image of the passive, mildly active senior is further perpetuated" (Driver, Brown, & Peterson, 1991, p. 427). Bandura (1986) contended that in exploiting the needs, physical changes, and common ailments associated with aging, the media too has stereotyped the elderly either as "idle simpletons" or as leading impoverished, hypochondriacal lives. He argued that stereotypes of the infirmed elderly aged shape cultural expectations and evaluative reactions of inefficacy. A declining sense of self-efficacy in an aged individual is apt to set in motion self-perpetuating processes that result in declining cognitive and behavioural functioning. Self-efficacy in this context refers to people's judgments of their capabilities to organize and execute courses of actions as required to attain designated types of performances (Bandura, 1986). Aged individuals who are insecure about their efficacy tend not only to curtail the range of their activities but also to undermine their efforts in those they do undertake (Bandura 1986; Searle, 1992). The net result is a progressive loss of interest, skill, and good health in its broadest sense.

Usual and Successful Aging

Teague and McGhee (1992) suggested that "more than 80% of elderly people suffer from at least one chronic condition, and almost 50% report two or more such conditions" (p. 4). However, about 50% of what is currently accepted in the community as being related to aging is, in fact, now understood by medical practioners to be hypokinesia, a disease of "disuse" (Epstein, et al., 1994). The leading chronic conditions affecting older adults, such as arthritis, hypertension, hearing and visual loss, and heart problems, are known, in fact, to respond to

health promotion interventions such as active leisure pursuits, healthy diet, and early care (Epstein et al., 1994; Teague & McGhee, 1992). Rowe and Kahn (1987) clearly identify the distinction between normal aging, in which extrinsic factors heighten the effects of aging, and successful aging, in which extrinsic factors play a neutral or positive role. The significance of which was recognised by Teague and McGhee (1992) who proposed an age and lifestyle appropriate model of health promotion specifically catering for older adults which distinguished between primary and secondary disabilities, and which focused specific attention on health enhancement and not just on illness prevention.

The Benefits of Leisure for the Aged

A number of researchers have suggested that participation in leisure activities by older adults offered a range of positive benefits, including an improved quality of life through the social aspects of group participation (Schafer, Berghorn, Holmes, & Quadagno, 1986), a reduction in illness and injury rates (Kirkby, Cass & Carouzos, 1995; Piscopo, 1985; Smith & Gilligan, 1989), and improved self-esteem through greater independence (Shary & Iso-Ahola, 1989; Sneegas, 1986). Kraus (1983) and Levy (1992) also suggested that leisure activities helped to improve the morale of older adults by giving them a feeling of satisfaction and accomplishment at having mastered some small skill or compensation for a particular disability. Furthermore, Lipman and Slater (1979) found that there was evidence to suggest that functional loss of older people can be retarded by activity involvement. They found that there was a strong relationship between the use of one's physical, intellectual, and social capabilities and the continued ability to use them.

Earle (1992), in a study of social network needs among older people, found that there were four main characteristics that were important for successful aging: first, the capacity to maintain levels of satisfactory role continuity (facilitated by ongoing activities or successful preparation for new activities); second, the degree to which partners can merge roles (in household management); third, the establishment of expressive behaviour (companionship, love and support) among partners; and finally, access to kin and friends (Earle, 1992). These characteristics are difficult for the older person to achieve when they reside in remote or rural areas.

The importance of leisure as part of a health promotion intervention for the well aged can, therefore, not be overstated. An investigation of the relative contribution of leisure activities and other factors on the mental health of older women found that leisure participation was strongly correlated with life satisfaction (Riddick & Daniel, 1984). Furthermore, the authors concluded that as participation in leisure activities increased, so did life satisfaction. Leitner and Leitner (1985) also contended that the leisure needs of older people support

autonomous decision making and social integration to help ease the negative aspects of retirement and the process of aging regardless of the person's living status. This notion was also advanced by Iso-Ahola (1980) who stated that, "continued participation in recreation activities throughout the entire life cycle is characteristic of those who live long and age successfully" (p. 178).

Community Health Interventions

Since one of the primary objectives of health promotion is to enhance the quality of life of each individual by way of changing negative behaviours and lifestyles to more positive ones, it is important, in the first instance, to understand the attitudes and beliefs of the elderly. Newly developed health information and educational materials should also reflect this same understanding and, importantly, should also be culturally appropriate. More and more evidence is being published that exercise and activity may be one of the best preventive behaviours available to older adults to maintain or, indeed, enhance their health. To this end, a review of biological changes commonly attributed to the process of aging does, in fact, demonstrate a close similarity of changes noted to that of a period of enforced inactivity. The coincidence of these changes across a whole range of body functions prompts the suggestion that at least a portion of the changes that are commonly attributed to aging are, in reality, caused by disuse and therefore, is subject to correction. Such a notion is supported by Coleman (1990) who found that those who maintained an active lifestyle were less likely to suffer from the stresses of life events and thus reported lower illness rates (both physical and psychological) than those who followed a more sedentary lifestyle. As suggested by Rowe and Kahn (1987), what has to date been accepted as normal aging may well in fact be presenting a false impression of what level of functioning is achievable in one's later years. As argued by Wharf-Higgins (1995) and Teague and McGhee (1992), the role of physical activity should therefore, be recognized as not only a primary prevention strategy, but also importantly as a secondary prevention and treatment strategy. The challenge for health professionals then is to enthuse older adults currently afflicted by chronic conditions to pursue appropriate physical activity programs (in addition to other positive lifestyle and behavioural changes). At the same time, the challenge for health professional themselves is to design effective programs for the older adults which recognise the importance of support networks, prevailing social attitudes, and physical environments as strong determinants of a healthy lifestyle (Browning, Kendig & Teshuva, 1996; Hooyman & Kiyak, 1993).

Summary

In summary, we should like to conclude this presentation by again focusing attention on the fact that the rapid increase in the older adult population, as a total percentage of the overall rural population, and the escalating cost of medical care, has brought the health profession to a point of some crisis. The future suggests that not only does the profession need to move away from a heavy reliance on the medical model as a basis for health care, but it also needs to take on a more proactive role in terms of ill-health prevention, health maintenance and, importantly, health enhancement for older adults living in regional communities.

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The Diversity of Rehabilitation in Mackay

Bonita Shore

Abstract

Rehabilitation as a human service works with people with disabilities and disadvantage to meet their needs, develop their abilities, and to facilitate their independence and participation in normal community life. An overview of the history and meaning of, and changes in, the concept of rehabilitation since its emergence in Australia for the re-settlement of returned, disabled World War I service personnel, to current practice is given. As a social institution in the field of health, rehabilitation's presence and impact in Mackay are apparent and diverse, contributing to its self-determination as a community.

Introduction

Rehabilitation is a relatively new human service, emerging in Australia in the early twentieth century as people survive and live longer with advances in medical science. Human service implies people working or contributing to meet human needs, suggesting lack or disadvantage. Out of these arrangements to meet human need, social institutions emerge, consolidate, and develop each with their own personnel, theories, and cultural practices. As a human service and social institution, rehabilitation in Mackay is evident and diverse.

The Macquarie Concise Dictionary (1994, p.384) defines rehabilitate as "to restore to a good condition, esp. in a medical sense, of persons; regenerate, or alter to an improved form ... to educate for resumption of normal activities." Rehabilitation may be viewed more broadly than simply a restorative approach to one which is empowering and developmental in nature. Newsome and Kendall (1996) propose the abandonment of a restorative and deficit approach to rehabilitation in favour of an alternative expansion rehabilitation approach modelled on health promotion and integrated holistic programs, focusing on expansion of opportunity vectors to enhance control, independence, and coping resources for the client by the rehabilitation counsellor.

This paper will firstly discuss the unique aspects of rehabilitation, its holistic and developmental approach and its location within the health domain. An overview will be given of the evolution of rehabilitation in Australia since the early twentieth century to current practice and the changes to the meaning of

rehabilitation. Finally, the diversity of rehabilitation in Mackay and its implications will be explored.

The nature and unique aspects of rehabilitation

Rehabilitation is a process aimed at helping people with physical, psychological, intellectual, social, and/or mental conditions participate in society, gain personal control, improved function and independence, and cope with their environment, taking account of their needs, abilities, goals, and their set of circumstances. Rehabilitation involves the provision and utilisation of resources for the client, and acting as an advocate for change in the physical environment or for greater acceptance of people with disability and disadvantage. Rothwell (1992, p.1) agrees that "rehabilitation is a process which takes into account the totality of the client's situation and needs, and that this involves input from a wide variety of skilled workers". These skilled workers, usually from an allied health background include rehabilitation counsellors as an emerging profession. Hershenson (1990) considers the rehabilitation counsellor's functions are to counsel the client to reintegrate self image and reformulate goals, coordinate services and programs, and consult with family, employer, and community to restructure the environment to promote the client's coping.

Rehabilitation can be considered within the field of health. Rothwell (1992) proposes rehabilitation as a health promotion process, an empowering and enabling process, aimed at improving health and personal control. Kickbusch (1986, p.2) describes health promotion as "the process of enabling people to increase control over, and to improve, their health" as a resource for living through which people are able to satisfy needs, realise goals, and cope with or change the environment. Hershenson (1990) provides a theoretical model of health prevention (Appendix one), which considers the individual and their environment. According to Hershenson, primary health prevention, in public and occupational health and safety, emphasises the environment in preventing disease or disability. Medicine as secondary prevention focuses on the person in curing or limiting the disease or disability. The person and the environment are given equal balance by Hershenson (1990) in placing rehabilitation as tertiary health prevention, acting to prevent residual conditions from creating further disability and recognising that physical environmental barriers may contribute to disability. Thus consideration for the person and the environment provides an holistic approach for rehabilitation.

Rehabilitation may be applied beyond disability to disadvantage to include drug and alcohol dependency; people abused in domestic violence or sexual assault; public offenders; or to minority groups, but these are more recent rehabilitation considerations. Previously, colonial Australia's response was to confine some of these groups to institutions and asylums away from mainstream society along

with mentally ill and retarded, the sick, invalid and aged poor, as confirmed by Kewley (1973).

The history and changing concept of rehabilitation in Australia

The concept of rehabilitation as a human service in Australia emerged as repatriation programs for returned World War I personnel, many of whom were injured or disabled. Forced by public pressure, funds were made available to war service persons and their families to enable their resettlement into community life through loans for houses, farms, businesses, furniture, equipment, and artificial limbs to enhance independence and participation (McDonald, 1976; Dickey, 1987).

According to Roe (1976), the next Commonwealth initiative established the Australian Government Rehabilitation Service in 1948 using the repatriation model as a broad basis. The service initially aimed at returning invalid pensioners, to the workforce (Jones, 1987). In 1958 the service became the Commonwealth Rehabilitation Service (CRS), extending access and services to include vocational training for other welfare recipients with disabilities.

Social changes of the 1960s and 1970s saw the emergence of civil and consumer rights movements, challenges to traditional thinking, and increasing self help and community organisations (Rothwell, 1984, 1992). Principles of the Independent Living Movement of the 1970s impacted on wider society and subsequently rehabilitation in services for severely handicapped people where vocational rehabilitation was inappropriate, adaptations to the physical environment to allow greater access for people with disabilities, anti-discrimination, attendant care, de-institutionalisation, and normalisation (DeJong, 1978; Williams, 1983). The meaning of rehabilitation was broadened to include increased personal independence, and a vocational and avocational approach.

The Disabilities Services Act of 1986 brought the inclusion to CRS of disability advocacy, accommodation support, and decentralisation to regional areas, assisting access and clients' adaptation to the wider sociocultural environment (Rothwell, 1992). However, in the later 1990s, the focus for CRS is vocational and occupational rehabilitation (CRS).

In the Queensland workers' compensation system, particularly with legislative changes (Workcover Queensland Act, 1996), occupational rehabilitation is emphasised. Based on the writer's employment as a rehabilitation counsellor within Workcover Queensland, rehabilitation utilises a case management model of early intervention, referral to external service providers, and return-to-work programs. To assist financial viability, referral to the Workcover owned South Brisbane Centre, a large multi-disciplinary facility, is encouraged.

Rehabilitation provision in Mackay

Mackay is unique as a Queensland regional centre outside the south east corner in having a multi-disciplinary rehabilitation unit, indeed two units. Since 1995, the three million dollar Pioneer Valley Hospital Rehabilitation Unit, housing a hydrotherapy pool, has conducted supervised physical conditioning and pain management programs by an occupational therapist, physiotherapist, psychologist, occupational health nurse and visiting rehabilitation specialist. Established in 1990, the North Queensland Rehabilitation Unit offers similar programs using outsourced facilities, also supervised by a multi-disciplinary team of health professionals and overseen by a specialist in occupational medicine (Schneider, 1997). Both units extend services to people with work and motor vehicle injuries and musculoskeletal and neurological conditions.

Since the early 1980s CRS has had a presence in Mackay. Its team of speech therapist, psychologists, occupational therapists, and rehabilitation counsellor undertake case management, vocational, functional, and driving assessments, individual and group programs, pain management, short term training, and host employment programs for clients with acquired or congenital injuries or conditions (Hardy, 1997). Fee-for-service is available also to external agencies and insurance providers.

Working within an insurance framework, internal rehabilitation counsellors at Workcover Queensland's Mackay office counsel clients, consult and liaise with the treating medical personnel, employers, private providers, and other community members, coordinating programs for work-injured people to facilitate their return to work or advise and assist workplace rehabilitation co-ordinators to do so. Referral is made to external rehabilitation agencies and allied health professionals for services, assessments, and programs, or to suppliers of aids and assistive devices for daily activities and work.

There are a number of occupational therapists in Mackay working attached to hospitals, in community health, in rehabilitation units, or CRS, some combining these appointments with private practice. They conduct functional capacity, workplace, home and driving assessments; back education; provide exercises and splints for hand injuries; and make recommendations for modifications, or assistive aids and devices for home, car or workplace to assist with daily activities, mobility, or resumption of work.

Other Mackay providers who undertake rehabilitation services either within units or as private providers include audiologists, physiotherapists who supervise physical conditioning programs; speech therapists often involved with people with neurological conditions and brain injuries; podiatrists who measure, fit, and supply orthotic devices and recommend appropriate footwear for foot, leg, and hip conditions; and psychologists. Psychologists and counsellors provide

psychological and vocational assessment, individual counselling for adjustment to disability, trauma and abuse, stress and pain management sessions, to help clients and their families deal with their personal circumstances and coping abilities. The number of private psychology and counselling services has increased markedly in Mackay in recent years, offering enhanced service choice and reflecting need.

Employment services and agencies for people with disabilities have also increased in Mackay. Endeavour Foundation provides training and employment support and a sheltered workshop for people with intellectual disabilities. Ideal Placements (at least half of whose clients have brain injuries) and Pioneer Employment Service help place and maintain people with disabilities in open employment positions and provide vocational training and maintenance (Collins, 1997; Tyshing, 1997). Thus through vocational and workplace rehabilitation, people with disabilities are encouraged to participate in community life.

A number of Mackay service and retail businesses can be considered as rehabilitation providers. Local gymnasiums are used by physiotherapists and the rehabilitation units for supervised physical reconditioning for work hardening and improved function for people with musculoskeletal and neurological conditions. Several district pharmacies stock aids and assistive equipment ranging from walking aids to wheelchairs, back support frames, and ostonomy bags helping clients resume normal activities and cope with environmental barriers. These businesses aid participation, mobility, and independence for people with short or long term disabilities.

Local education and training institutions contribute to vocational rehabilitation. Through short and long term courses offered by these organisations people are able to develop their skills and abilities for new career paths to enable their participation in the workforce in new directions, if required.

There are government units and funded programs in Mackay which also have a rehabilitative function. The Drug and Alcohol Unit provides counselling, programs, and information for people with drug and alcohol addictions and dependency, or their families. Community Mental Health Unit, Disability Operations, and the Aged Care and Disability Unit provide services, assessments, counselling, and resources for people with physical and intellectual disabilities to aid their independence, participation and maintenance in their home and community and minimise institutionalisation.

Community-based programs, generally funded through government grants, such as the Domestic Violence Resource Service, and Mackay Sexual Assault Service help people, usually women and children, deal with the psychological, emotional and social issues associated with the trauma of abuse, fear, and issues of safety to aid the healing process. Similarly, Mackay Women's Health and Information

Centre and Mackay Multicultural Women's Health Program take an holistic health approach to psychological, social, mental, and physical health issues, offering a range of free or low-cost resources, programs, support and self-help groups to help women develop enhanced confidence, self-esteem, empowerment, and knowledge. The Migrant Resource Worker provides resources, networks, and referral to assist people with settlement difficulties and education and qualification recognition. Mackay Life Enhancement Group provides personal and accommodation support for people with physical or intellectual disabilities with high support needs enabling them to live at home (Thornton, 1977) rather than in institutional care. According to Gearside (1997) Mackay Advocacy Service provides advocacy for people with physical and psychiatric disabilities experiencing problems, assisting with resources, linking, and referrals.

Within the community, a number of self help and support groups aid the rehabilitation process. These include, among others, Alcohol Anonymous, GROW, Unmet Needs Campaign, Mackay and District Spinal Injuries Association, and cancer support groups.

In Mackay, these are just some of the private, government, and community rehabilitation services and providers, some of whom do not necessarily identify themselves as such, but who nevertheless serve a rehabilitation function if one takes the perspectives of enhancement, holism and developmentalism rather than merely a restorative approach to rehabilitation. The diversity of rehabilitation in Mackay also offers a range of approaches including occupational, vocational, avocational rehabilitation, independence, empowerment, and normalisation.

Implications for Mackay

The implications of such diversity of rehabilitation for Mackay, can be considered from a number of perspectives. Economically, it contributes to the financial well being of the area, providing income and employment for residents, as rehabilitation staff in government, community, or private enterprises, through the provision of revenue for commercial service providers and suppliers and their employees. Importantly, rehabilitation enables employment, return-to-work and community participation opportunities for people with disabilities and disadvantage.

From a psychological perspective this acknowledges and utilises the client's skills, abilities, and strengths thereby increasing independence and minimising dependency. When people with disability or disadvantage are able to participate more in the wider community, either in paid or voluntary work, in education, and leisure their self esteem and self image, health and personal control are enhanced as coping abilities are promoted and they contribute to their community.

Rehabilitation benefits Mackay from a social perspective in recognising needs and goals and in utilising the skills and abilities of its people, not only of those with disability and disadvantage but in mobilising its wider resources to enhance life for its residents. People are able to remain in their homes and communities, close to family and friends. As an estimated 18% of the Australian population in 1993 had a disability (ABS,1993), as Mackay people with various disabilities become more visible, this reflects more accurately the diversity of its people and of wider society. This provides an opportunity for Mackay to become more tolerant and to reduce physical and social barriers to community participation.

Conclusion

In conclusion, rehabilitation in Mackay is diverse in terms of range of provision, approaches provided, and benefit to the community. The role of rehabilitation as a human service and social institution in Mackay has been to recognise the needs, goals and circumstances of its people with disability and disadvantage and to provide services and resources to allow independence through enhanced opportunity in their development of their skills, self-esteem, and abilities, and their participation in society, in employment, community, and leisure. The role of rehabilitation has been to utilise and develop the skills, creativity, and assets of Mackay residents in finding solutions to meet community needs, to cope with and change the environment through the development of community organisations, self help and support groups, and in recognition of human rights. The role of rehabilitation has been to attract services, suppliers, and allied health professionals to Mackay and the development of rehabilitation units, unique in regional Queensland, adding not only to its economy but also to its population diversity and culture. The role of rehabilitation has been to facilitate Mackay as a healthy, self determining and creative community.

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Appendix One

PRIMARY PREVENTION: PUBLIC HEALTH
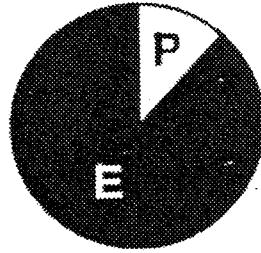
SECONDARY PREVENTION: MEDICINE
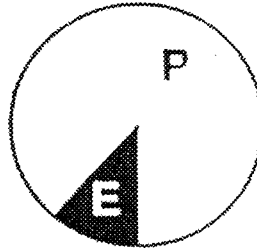
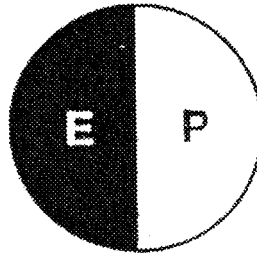TERTIARY PREVENTION: REHABILITATION

FIGURE 1
Relative Emphasis on Person and on Environment in the Three
Levels of Prevention; E = environment and P = person

Source: Hershenson (1990, p. 271)

'Black Rain': A Multi-media performance[1]

Ian Bofinger & Helen Lancaster

This conference provides an excellent opportunity for Central Queensland Conservatorium of Music to present a multimedia event as a demonstration of performance as research.

Recent adjustments to the ARC Research Quantum have denied performance the opportunity of credit as research. The researcher needs to review, reflect, reconsider and (perhaps) rework the subject of study. Yet this is the basis of most informed performance. It is a process which requires review, reflection, reconsideration and reworking. It is usually polymodal and requires a developed ethic of observation, participation and enquiry. The difference for the musician is that performance is the medium of communication rather than the written word.

Taking the research process as the basis for this event, Ian Bofinger is able to demonstrate the parallel of performance to research.

Beginning with the conference theme, Ian took both a macro and micro approach to the conference theme *Visions of Mackay*. In macro, he chose a multi-discipline performance because of its relevance to Mackay as a city which is multi-faceted in the industries which provide its economic base; tourism, beef, coal and sugar cane. The micro vision was that of one facet, a literal vision - the firing of sugar cane, a sight which had had a profound effect on Ian when he first arrived in Mackay in 1991. Here began the background research.

The process of review

In the initial stages of enquiry, the various elements of the performance were explored. The multimedia events were chosen to be dance, live music, video projection, a sound track and lighting. A choreographer, dancers and musicians were invited to participate. The pivotal feature of the multimedia presentation was the video footage from which all of the other disciplines would emerge. Projection equipment was located and technical specifications such as size of image and luminosity identified.   Sources of video footage were canvassed,

resulting in three hours of cane related film (which amounted to only 4 minutes 39 seconds of appropriate fire footage). Further enquiries were made as to the rationale for the limited cane burning sequences and the possibility of more appropriate footage. It was learned that, due to the growing number of cane farms using the 'green cutting' method of harvesting and pressure from a more 'environmentally aware' public, the fire sequences were being systematically removed from footage being held at the companies approached. The duration of this footage was therefore not long enough for the 15 minute presentation initially planned. To augment the time factor it was decided to sample the video frame by frame and digitally paste them together to form the desired length of vision.   After sampling and digital pasting, the film was ready for the development of a sound track.

From the Faculty of Natural Resource Sciences at Queensland University of Technology came information on the chemical structure of sugar. Refined sugar ($C_{12}H_{22}O_{20}$) is a disaccharide, resulting from the reduction of a water (H_2O) molecule from two Glucose molecules ($C_6H_{12}O_{11}$).

The process of reflection

This chemical structure provided the foundation for a number of decisions in the creative process. The use of two screens (disaccharide). The chemical formula provided the number sequences for the rhythmic motif of the work as well as the tonic key centre for the melodic fragments. The percussive sequence is derived from the polyrhythmic overlay of 6:12:11 ($C_6H_{12}O_{11}$).rhythmic patterns. Two (di-) melodic fragments were generated based on the key centre C (as per the chemical element carbon in $C_6H_{12}O_{11}$) and based on a succession of six and eleven notes respectively (from the numerical section of the molecular formula of the glucose molecule). These phrases were then processed by inverting, retrograding and inversely retrograding to achieve the melodic line. Audio recordings from the canefields at dusk provided the sounds of birds and insects. From this, the bird calls were extracted and computer-generated insect sounds were developed with the use of percussion instruments. The superimposition of the melodic lines of the flute added to the collage of sound effects and achieved the dualist sonic outcome necessitated by the 'di-' inspiration .

The fire theme required simplicity yet also needed to emulate the driving, unstoppable and immense power of the cane fire. Hence, a minimalist approach to the harmony and rhythm was chosen. This resulted in the use of two bars of chords moving away from the tonic key centre of C and two bars chords returning to the key centre. These sets of chords repeated the pulsed time indexed in relation to the video framing speed and cyclically continued for eight minutes to form a basis for the complete 'fire theme'. Upon this 'ground bass'

there were built progressive textural layers, each entering in a staggered time scale.

The overall 'fire section' was then constructed in an arch form with the multimedia layering representing the growth, as each of the successive entries built above the previous, and the decline of the burning cane, as each of the textural layers withdrew.

A lighting design was developed to represent the various elements of the cane fire. This was achieved with the use of a DMX control desk, a twelve channel dimmer rack and twenty six theatre lights. The lights were placed and gelled to represent the various colours of the fire and the movement of the smoke. The lights were designed to accurately represent the brilliance and intensity of the cane fire and were programmed into the computer-operated lighting console allowing automatic operation of the lights. At the same time the footage was presented to the choreographer for development of the movement component and costume design.

The process of reconsideration

As the work began to take shape, elements outside the control of the researcher/creator impacted on the final outcome. The original lighting design required radical alteration because the performance was eventually scheduled for a venue where 3-phase power was not available. The final lighting design however, continued the bipartite theme:

- 2 x par 56 lanterns gelled in three colours (yellow, orange and red) to represent the various colours of fire;
- 2 x par 56 lanterns gelled in frost to represent the smoke.

The choreographer maintained the theme by using two dancers, one in red to represent fire and one in white to represent smoke. Their movements related closely to those of the elements they represented – short and long sharp movements upwards and outwards from the fire, and more swirling fluid movement from the smoke. The costuming also allowed the dancers to work directly in front of the projection screen and as they moved they became part of the total image. There were modifications brought about by restrictions imposed by the performance space available, which was not as originally anticipated.

The inclusion of a second screen of real time footage juxtaposed with that of the screen of sampled footage became an inevitable necessity to fit within the dualist framework established by the 'di-' theme. The footage for the second screen, to be projected above the initial screen, was created from short segments of the earlier collated footage and randomly repeated to complement the lower vision. This enabled the performance area to have dimensions of 4m x 4m x 4m, which enhanced the feeling of size and power of the cane fire.

The outcome

The eventual result of this process of review, reflection and reconsideration was a multi-media performance involving:

- dual video footage of cane firing projected on two screens;
- stereo recorded soundtrack comprising bird calls and computer-generated insect sounds;
- mirror imaged lighting;
- choreographed movement by two dancers;
- live music (flute).

It was introduced by Ian Bofinger who described the process but not the event. The comparison which might be drawn to scientific research is that this performance was able to be understood through the experience itself, whereas most scientific research requires explanation. Every process of enquiry has the potential to draw out lines of research, even that which occurs in the context of performance. However, the argument that or performance should be seen as research, does not follow automatically.

At the National Symposium on Research in the Performing Arts in Melbourne (May 1997), researcher Alison Richards summarised the difference thus:

> "if a performance activity is to quality as research, and observer who has not been involved in the process must be able to understand the research question, and to pay attention to that aspect of the performance which tests or demonstrates the researcher's response." [2]

The demonstration in this event of the application of review, reflection and reconsideration is one which strengthens the argument that performance activity may well be seen in the context of research.

References

1. 'BLACK RAIN' was a world premiere performance at the Regional Australia: Visions of Mackay conference
2. Richards, Alison, 'Performance as Research/research by means of performance', *Background papers National Symposium on Research in the Performing Arts*, May 15/18 1997.

The Con-cept of Con-crescence: It's all Con!

Helen Lancaster

The title of this paper in some ways belies the con-tent! It does, however, underline the most remarkable vision of Mackay – that of communal growth, of working together (to use Senator Reynolds' words "cohesively and creatively") to achieve a mutually beneficial goal – something this community has demonstrated on more than one occasion. Whilst the theme is an historical one, the message is ongoing.

The Conservatorium first came to Mackay at the insistence of the Mackay community. I came at the insistence of the Conservatorium in Brisbane. One of the first questions I asked, and one I have been asked many times since, was "Why Mackay?"

The answer to that question offers two visions of Mackay – the one on which the paper will concentrate, that of the community which has the vision to bring about something which, in other centres might have little chance of survival. But this remarkable sense of vision gives rise to a second, almost contradictory picture – that of the community which, having achieved its vision, denies its own success.

The Conservatorium has experienced both visions of Mackay. It owes its initial development to the Mackay community which chose to support its arrival financially and aesthetically. But, although it continues to enjoy community support, its subsequent growth and development of the national profile it now enjoys have, to a large extent, occurred almost despite the community's response. For much of what is acknowledged outside Mackay is not acknowledged within the community itself!

Consider the first of these visions. That's the concrescence – the growing together. Why was Mackay chosen as the site of the first regional campus of Queensland Conservatorium of Music? And why has its success persisted through various mutations to its current status as the newest Con on the Aussie block, Central Queensland Conservatorium of Music?

Mackay decided. Mackay insisted. Mackay persisted. Was it just that there was competition from Cairns, and Rockhampton, and, most particularly, Townsville?

I suspect this played a major role in the community's response. One of the first lessons to learn was that Mackay responded well to the concept of "it will be something the others don't have", or it will be "bigger than the rest".

Before the Conservatorium was even a twinkle in the community eye, that argument won consistent funding from local government in establishing the Community Music Centre and the position of Community Music Co-ordinator, the first of its kind in the state.

The almost insular parochialism evoked by this defensive attitude gave Queensland Con little choice in where to look for the campus. But it was to be the first of four, one to be established in each subsequent year. In the first two months, the rationale presented to the community, based on "get behind it and, if it's not the only one, it will be bigger than any of the others", was probably substantially responsible for the $145,000 raised in donations to provide furniture and equipment for the campus. Mackay was the only city to offer such funding, and probably the only one capable of raising it.

With the community having done so, and the addition of a clever twist of direction which ensured that the campus would be more expensive than originally planned, Queensland Con couldn't afford to set up any more campuses in other cities. Mackay was to be the only one. It only took twelve weeks to get the final decision.

But that was only the start. The trick was to keep the impetus going. At no stage was it safe to sit still and just consolidate. And definitely not safe to relax. What next? A scholarship program? – certainly. Concerts? – immediately! Oh, you mean with visiting artists? – ouch! Expensive, but we really must, because the students need it even more than the community audience! Regional instrumental teaching? – well, it's not normal for a Conservatorium, but, if you insist, we'll give it a try...

So it went on... and then came the orchestra, and the opera company...

... Strength in diversity! The diversity is best explained by describing what our full-time staff are doing today. At this moment, three of them are leading the Lyrebird Ensemble chamber orchestra in its support of the schools' performance of Opera North's production of "La Serva Padrona". Another is at West Hill State School, giving classroom music lessons to all of the 18 children in this small school. Two more are giving a performance at Rockhampton State High School, another is giving voice lessons in Rockhampton, as he does every week. Two of the jazz staff are rehearsing the combos for this weekend's jazz festival. Another of them will this afternoon teach some classes for Theatre Arts Mackay, while at the same time, the leader of this morning's orchestra will give violin lessons to

young children at the Con. Four (one of whom is also juggling the orchestra calls) are rehearsing the Con Act production of "On Broadway" which is being presented as part of the Mackay Festival of Arts next week, one is in Darwin at the International Composers' Forum because his work has been short-listed for a competition.

Two more are in London at the International Congress of Voice Teachers. And this is a non-teaching week!

But whilst we've been developing this diversity, at every step along the way, a game was being played out with the stakeholders.

Play no. 1:

The music teachers in the community want their students to have the advantage of visiting teachers, but they don't want to lose their students to Conservatorium staff. And once the visiting teachers are coming hard and fast, they come too often to generate interest! It's comforting to know it's there, but...

Play no. 2:

Juggling the establishment of an orchestra in a community which already has lots of school ensembles, and a youth orchestra to boot, is just about as tricky as responding to the need for a professional opera company in a community which has more than one community group presenting amateur productions. It mustn't be perceived as competition.

Play no. 3:

Responding to requests for regional instrumental teachers in schools which are not serviced by the Department of Education instrumental instructors has to conform to departmental guidelines. But, in doing so, the foundation is laid for the department to take over the work once the program is large enough to be self-sustaining. That has happened in seven schools so far. Then we start again...

Despite the interesting gameplay, we're both still in there – the Conservatorium and the community. Senator Reynolds spoke of such unity as comprising "drive, persistence and patience". The statement is particularly true in our case. The community has gained a significant result from its investment. Recent experience in state funding and policy meetings, over the past five years, has taught me to expect the question "why not in Mackay?" more often than the original "why Mackay?" For example, visiting national artists often ask why the Australian Festival of Chamber Music isn't held here instead of Townsville. That recognises the community's cultural reputation – something which has grown alongside, and certainly linked to, the profile of the Conservatorium.

The gains include a robust infrastructure in the performing arts, with strong

Conservatorium support for community projects, such as the Mackay Festival of Arts. The Con's 1996 contribution in kind exceeded $10,000. If we cost the scholarships, and the subsidisation of regional teaching, we'll easily go past the money given to the Con by Mackay City Council each year. It's no longer a donation – it's working capital!

Donations are no longer a part of the strategy, though we still readily receipt them when they're offered! There's a limit to the number of times one should ask for a handout. Besides, the handout theme implies a 'lame duck' mentality. We prefer to offer our services, and, like any small business, also like to be paid for them! So, whilst the money is aligned to expenditure, it is more likely to come in consistently because it is being paid for services rendered rather than thrown into a bottomless bucket labelled "donations please".

The tricks also continue to be a part of the rationale.

Having seen the interest in regional instrumental teachers, we used it to create employment packages for staff who want to teach and perform – a rarely supported combination in these times of lean funding. The result – an energetic and extremely performance-oriented staff who also have a great affinity for their work with the children in (sometimes very small) regional schools.

The 1996 change to CQCM brought with it the need for a few special bits of magic. Having been always the smaller campus of the larger reputation, how does one manage in competition against one's alma mater? The answer, of course, is not necessarily a pretty one _ not whilst the product remains the same. Do something different, was the answer. Once again, we looked to the community. What was different, and still fitted the community mould, the community need?

In a community with strong dance and drama schools, and a long history of well-supported amateur productions, what else but music theatre?

And let's not forget the mainstay of island and tourist entertainment – jazz.

The 1997 intake of students at the Conservatorium defines the success of the new approach. Less than 25% of the intake was from Central Queensland. Instead, they came from all over the country, and overseas.

Two recent (unsolicited) articles in the *Weekend Australian* underline that this national profile is real. In the first, an article on tertiary music institutions nationwide, the Dean of Music at the Victorian College of the Arts, Associate Professor Gillian Wills, said that the larger schools "could learn much from Central Queensland Conservatorium", referring to our capacity to earn more than 30% of our annual income.

The second, based on orchestras located outside the major centres, spoke of the

"extremely high standard" of performance amongst the core members of the Lyrebird Ensemble orchestra, all of them Conservatorium staff.

And yet (and here's the other "vision of Mackay"), the orchestra finds it hard to attract an audience in Mackay! The community which packs out any sort of performance by the Queensland Symphony Orchestra struggles to fill the first few rows for an even finer performance by a – dare one use the term – local group!

So - what is the vision that keeps the Con in Mackay – it is the energy generated by the product itself. An energy as potent as that of the coal the region produces – and, at the same time, just as latent. It needs to be burned in order to be effective – and keeping Mackay burning has been the ongoing secret to the success of the Conservatorium.

Once again, I note a comment from the first session today. Ron Mullins, of Canegrowers, spoke of being aware of global forces when appealing to an export market – of being around for the long term. I am reminded here of the products which bring wealth to this region. I think of "mining" the talent, and "growing and refining" the product to release its potential. And just as the sugar needs refining, so too the concrescence is refined according to the community needs. The product must always reflect the consumer demand.

But there's more to it than that. There must be a vision. And therein is the "con". Initially, the intention of this paper was to focus on the work of the Con itself. It seems to me, however, that there are more "cons" than just the one in Shakespeare Street. The community "conned" the Conservatorium into establishing a campus in Mackay. The Conservatorium, in turn, "conned" the community into supporting its establishment. But the result of this balance has been concrescence: growth for both the institution and the community.

What is my vision for the Conservatorium and its community? Like Phillip Gasteen of BHP, I would want to increase the quality of our operations. The product needs little attention – it is the way in which we offer it to the community which would benefit from improvement.

We need new facilities – a new building. I have no doubt that the coalition between Conservatorium and community which established us in 1989 will likewise work to bring this about, this time with the University as part of the concrescence.

The new building will, in turn, build the national and international profile of University, Conservatorium and community: a true concrescence, and the beginning of a new vision.

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Mr Clive Booth was the Foundation Head of the Mackay campus of Central Queensland University. During the period 1989 - 1995, he played a key role in the evolution of CQU in Mackay from an Institute of Advanced Education operating in temporary premises to a university on a purpose-built campus. Clive has published in the area of development, management and governance of regional universities as well as in local history.

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Visions of Mackay

Mackay is one of the most vibrant and prosperous regional centres in Australia, combining industries of coal, sugar and tourism and servicing a growing and culturally diverse populations. The city faces important challenges as it seeks to maintain its prosperity and secure its future within a complex, increasingly globalised environment in the next millennium.

The chapters in this volume are based on papers delivered at the Visions of Mackay conference, held at Central Queensland University Mackay in July 1997. Covering a range of issues including the economy, education, cultural tourism and health, the twenty three authors in this book show how the creativity and commitment of the people of Mackay are the best guarantees of the city's future.

The book will be of interest to anyone concerned with the future of regional Australia.

Visions of Mackay voiced the thoughts, hopes and challenges of a region in pursuit of greatness. This was a ground-breaking forum for exploring and realising Mackay's limitless potential.

Carrie Schofield, The Daily Mercury.

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